THE MARINE RECORD

DEVOTED TO NAVIGATION, COMMERCE, ENGINEERING AND SCIENCE.

VOL. X No. 35. CLEVELAND. O., SEPTEMBER 13 1888. $1.00 PER ANNUM SINGLE COPIES 5 CENTS

Det Bel Isle & Windsor Ferry Co 6 8

AROUND THE LAKES.

CLEVELAND.

Captain M. Daniels, of Marquette, Mich., was in the city Tuesday.

Mr. E. M. Peck, the well known vessel owner of Detroit, was in the city yesterday.

Captain Simon Langell, the well known shipbuilder of St. Clair, is paying this city a visit.

The exhibition of the life savers was perfect in every respect, and those who witnessed it were well pleased.

Mr. Westaway, the supervising engineer of the Michigan Central railroad company, paid a visit to this city yesterday.

Captain Tim Kelley, of the Massachusetts, who has not visited this port for three years, appeared last week and paid us a pleasant visit.

The fireman who lost his dunnage bag in Sandusky a short time ago, can find it at No. 808 Water street. Mr. Ostermann, who is a member of No. 48, M. E. B. A. gives us this information.

The Cleveland Shipbuilding company have the stern frames all in to the Michigan Central ferry boat, and the outside plating and deck plates are being worked along rapidly.

Mr. Williamson, of the firm of Williamson Bros., of Philadelphia, was in the city this week, and favored us with a call. He informed us that the firm has orders for placing their steam steering gear in the United States cruisers now building East.

Mr. Louis Richter, a brother of one of the owners of the yacht Unique, was drowned from the dock of the C. C. C. & I. railroad on Tuesday. Captain Goodwin, of the life saving station, sent men and a boat to recover the body.

The last exhibition of the Cleveland life savers will be on Monday, the 17th, at 3 o'clock. All who desire to witness this interesting exhibit should be on hand promptly, as the boys do not like to remain in the water over time.

The Cleveland drydock is kept busy, having had since our last publication three very fine vessels on the blocks. The steamship Spokane, after having a new plate put in her, was followed by the steamship Corsica for repairs to shoe, and today the Corona docks there for repairs.

By direction of the lighthouse board three additional black spar buoys, Nos. 19, 21 and 23, have been placed on the east side of the channel leading from the main beacon to the foot of Columbus avenue, Sandusky, Ohio, No. 23 marking the turning point for the channel leading to the Baltimore and Ohio railroad docks.

Mr. Wm. H. Morris, late of the yacht Picket, made us a pleasant call to-day. Mr. Morris a first-class marine engineer holds a New York license. Mr. Morris informs us that he is open for an engagement and if successful in procuring one will remain here, otherwise he will return east at an early date.

We are credibly informed that the new steamship North Wind, Captain Delos Waite, James Hay, engineer, made the passage from Detroit to the Soo River in 25 hours. This distance would have the vessel to move over the ground upward of 14 miles per hour, a fact very satisfactory to her engineer, and captain; also to her builders the Globe Iron Works Company.

The steamer Calumet, which was on the beach abreast of Lyman Brothers' boat house, was released by the tugs Dreadnaught, James Amadeus and R. K. Hawley. It is thought that the master of the Calumet mistook the lights of the boat house for those of the pier at Cleveland. These miscellaneous lights cannot be too closely guarded.

At the annual meeting of the Cleveland Shipbuilding Co. held in this city, the policy of the present head of departments were eminently approved of, and we are pleased to announce that there will be no changes in this direction. The officers are: President, Henry D. Coffinberry vice president, Robert Wallace; secretary, William M. Fitch; directors, William Chisholm, Henry D. Coffinberry, J. C. Gilchrist, R. H. Rhodes, J. H. Wade, jr., Valentine Fries and Robert Wallace.

Meteorological summary for the week ending September 11, 1888:

Mean actual barometer	30 14
Mean temperature	62.6
Mean humidity	71.9
Total precipitation	.55
Prevailing direction of wind	S. E
Total wind movement	1398
Av. cloudiness	3 7
Av. state of weather	Fair.
Max. temperature, highest	82.3
Min temperature, lowest	49 0

W. H. HAMMON, Sergt Sig Corps, U. S. A.

The Globe Iron works company have a contract with the Lehigh Valley line for a new steel steamer to be built on the lines of the splendid steamer E. P. Wilbur, and to be ready for navigation early next season. We also note that J. J. Hill, manager of the Manitobia line, is so well pleased with this firm's building that it is the intention of that company to have two more vessels built in addition to the fleet of six contracted for last year.

Mr, Gentchell, late boiler inspector for the Hartford insurance company, died at his residence on Franklin avenue, and was buried from there yesterday. He was a member of the Civil Engineer's club of Cleveland. A gentleman of probity and honor, a good husband and father. A man to whom was due the respect of the community, has passed away leaving a wife and two married children and a host of friends to mourn his transition to the higher and better world.

The work of wrecking the tug Forest City is progressing finely and it seems probable that she may be brought within the breakwater today. In trying to raise the sunken tug from a depth of fifty-five feet a new diver, Mr. Joseph Herbert, is reported as having made an excellent record. He handles himself well and is doing good work. He had already made something of a record in work at the crib and also in locating the lay of the schooner Lucere in Lake Superior ast year.

During the month of August, 149 disasters occured on the lakes with a total loss on hull and cargoes of $147,700 against $151,600 and and 114 casualties in July: Lake Michigan 39, Lake Huron and straits 27, Lake Superior and Sault river 14, Georgian Bay 2, rivers 14, Lake St. Clair 6, Lake Erie and Welland canal 33, Lake Ontario 14. Fifty-six stranded at a loss of $42,800; 12 disabled, loss $13,000; 13 sprung aleak, loss $15,000; 10 ashore, loss $14,800; 22 collisions, loss $17,300; 36 heavy weather, loss $48,100, 1 fire, loss $200.

The members of the memorial post, grand army of the republic, departed on Monday for the scenes of battle, (Columbus.) It is to be hoped that the war will not be carried into the neighboring states. The writer had the honor of serving in the army four years, but owing to pressing business can not take part in this grand review. There will doubtless be 250,000 old soldiers present, and we hope they will be as brave against the wiles of the politician as they were in the battles of the enemy.

Last Tuesday the yacht club, of Cleveland made a race and for a time it seemed as if the slowest would win, they went away in good order as follows: Sloop yacht Rover, Petel, cutters Unique, The Lady Ida, cutter Sylvia and Eole. The start was made at 10:30 a. m., the run being 14 miles, 7 miles to windward and 7 miles return. The tug Sims placed the stake boats. The judges were on board the yacht Wasp, and getting tired of waiting, broached cargo. The bottles were loaded with the finest kind of bilge water and every one seemed happy.

It is reported that high ore rates will surely mark the close of this season of navigation and it is more than probable that the shipyards of the lakes will be crowded. The builders here are slow to make contracts but it is almost certain that another boat like the Wilbur will be built by the Lehigh Valley company, and the Mutual Transportation company, owners of the Cambria, Corsica and Corona, are about as sure to build another big one. The Cleveland Shipbuilding company has been figuring with the Lackawanna company for another boat.

CHICAGO.

Special to the Marine Record.

The new steel steamship Algonquin, of Glasgow, Scotland, arrived here Wednesday night, September 5th, light, from Kingston, Canada. She is 253 feet keel, 264 feet over all, 40 feet 1 inch beam, 20 feet depth of hold Her triple expansion engine is of 1396 horse power 21, 33 and 54 by 36, and two boilers thirteen by nine feet each. Captain John S. Moore, who commands her, brought her over from Scotland. J. B. Hastings is first mate, James Carrol second mate, Robert Kenney, formerly of the steamer United Empire, is chief engineer and Frank White is assistant engineer, and she is owned by Thomas Marks & Co., of Port Arthur. She is a very substantial built steamship and her machinery and everything about her is of the best. She is a large carrier and took on a load of 72,500 bushels of corn on a little over 14 feet draft of water.

At the Chicago Drydock Co.'s. the tug W. L. Ewing was in dock for bottom calking, the schooner Rising Star for bottom calking and general repairs, the schooner Wilbur received a new square sail yard, the A. J. Dewey a new jibboom, the W. Loutit a new gaff, the schooners City of Sheboygan, Anna Maria G. C. Martin, Geo. Nester and H. J. Mills received some general repairs.

At Miller Bros.' shipyard, the steambarge Monitor is in dock for a new wheel and considerable repairs, steambarge J. H. Shrigley was in for repairs to shoe, steambarge Thos. R Scott for overhauling bottom and fixing stern bearing, schooners Elgin, Cuyhoga and Kate Hinchman for leak stopping, steamer Unadilla to have her bottom coppered, the schooner George L. Wren received new main boom and gaff, schooner Jennie Mullen a new mainmast and main topmast, schooner Annie O'Hanson a new center board, schooner Jessie Boyce a new foremast, schooners Cuba and John M. Hutchinson new cathead, schooner Melvina new jibboom and cathead, the tug Wanbun was in dock for repairs to her stern bearing, the schooner Annie Dall to have a leak stopped.

Vesselmen are complaining that when approaching the Sturgeon Bay canal from the westward there are not any buoys on the flats, which makes it very difficult to navigate the channel. All descriptions of vessels get aground and tug bills have to be paid for pulling them off. As three cents per ton is charged for going through the canal, it is only fair that the channel approaching it should be rendered navigable.

The Custom house authorities at Chicago are enforcing the regulation requiring vessel captains to get their papers personally and not by proxy. The schooner Clipper City was fined $20 for leaving port without a clearance after the barge office had refused to furnish the captain of another vessel papers for both his own boat and the Clipper City.

The schooner Tibbetts, which went down near Port Burwell in a storm some time ago, has gone to pieces and her coal cargo is almost completely washed away. Carter Bros. sent their wrecking lighter, the Bay Trader, to the scene of the wreck with their new coal steam pump, and the outfit was on Monday taken to Port Colburne with about 100 tons of coal from the wrecked vessel's cargo. The pumps worked admirably, and had the Tibbetts held together they would have saved the entire cargo.

The schooner Cheney Ames reported Monday night to have sunk with all on board, in Lake Huron, is now believed to be safe. Word has been received that she passed down Sunday evening.

Crosby & McDonald, general insurance agents have issued a circular letter informing local agents that in the future their companies will charge fifty per cent more than the standard rate for writing risks on cargoes in A2½ hull and 100 per cent more for cargoes in B1 hulls. Buffalo underwriters have taken similar action. This is to head off any move to use these vessels for grain since the increased demand for ore set in. About thirty per cent of the tonnage that is at present engaged in the profitable trade between Chicago and Georgian Bay will be affected by the order. Instead of carrying grain in the future, these vessels will have to confine their operations to coarse freight cargoes, upon which the risk is comparatively light. Very little tonnage in the Buffalo trade will be affected, for that route is now monopolized, or nearly so by the large sized steamers and tow barges.

The propeller Roanoke ran up high and dry for half her length on the eastern end of the outer breakwater. She ran with a full head of steam on, there being no light to mark the big structure. She was pulled off. It required five hours work by three tugs and the life saving crew. She is badly damaged and will have to be drydocked.

The steel propeller Roanoke, Captain Byron, when going out light last Thursday evening ran on the sunken portion of the government breakwater, about 200 feet from the east end. The tugs J. V. Taylor and T. T. Morford went to her assistance and succeeded in pulling her off, and she was taken to the Illinois central slip. She escaped without injury, and when it was found that she was not leaking she left port for Muskegon. No light was displayed on the broken structure at the time, and vessels coming in had better give the government breakwater a wide berth if they wish to keep out of trouble.

The steambarge Swallow was libeled by S. B. Barker last Wednesday, for $1,882, the value of her deck load of 86,000 feet of lumber, lost overboard in July last. Mr. Barker claiming that the weather was good at the time and that there was no necessity to throw the deck load overboard. The Swallow was bonded Thursday and it is reported that the cause of her deck load was overloading, she having left Muskegon decks to, and when in midlake a slight breeze sprung up and she began to list badly, and the ropes which bound the deck load were cut and she lost the 86,000 feet of lumber.

General Dumont of Washington, inspector general of steamboats, was in Chicago on Wednesday, Sept. 5 h, and in company with Captain Cyrus Sinclair and Stewart Moore, the inspectors, went on board the tug O. B. Green of the Dunham Wrecking and Towing company, and examined her steam steering gear, and the general expressed himself well pleased with it. General Dumont, who is on a tour of inspection, said he found the work of Local Inspectors Cyrus Sinclair and Stewart Moore had been first-class, and everything was in much better shape than when he was here six years ago, particularly in Captain Sinclair's department. Then there was considerable complaint among vesselmen against the inspection of hulls. Now not a word was heard. "I have found the hull of steamboats much improved compared to what they were in that time," he continued. "One owner tell me vesselmen are not allowed to let their boats wear out now, the repairs the inspectors compel them to make causing the craft to last much longer.

WILLIAMS.

RIDGETOWN.

The barge Otonabee, Captain James Martin, lumber laden, went ashore at Morpth pier. The crew is safe. The cargo consisted of 210,000 feet of pine lumber, consigned to Seane & Buller of Rigdetown by Donogh & Oliver of Toronto, and is partly wrecked.

KINGSTON.

The schooner Acacio is loading lumber for Oswego. The schooner Singapore is being repaired at Portsmouth. The propeller Algonquin and the schooner G. C. Finney are been chartered to carry 100,000 bushels of corn from Chicago to Kingston. The steamer Spartan, which arrived last evening, will receive repairs to her wheel here and proceed to Montreal. The steamer Ella Ross has made her last trip over the Kingston via. Montreal Ottawa route. It has not been paying. The steamer Rosedale, laden with grain from Fort William, run on a boulder and stuck in the harbor. After being lightered of 6,000 bushels of grain she floated off the rocks. Around about the rocks there is seventeen feet of water. No damage was done.

DETROIT.

Special to the Marine Record.

Mr. Louis Lemon quotes towing business as being quite brisk.

The Eagle Iron works are very busy filling contracts and report the outlook for the future as being favorable.

The Central boiler works have all the orders they can attend to at present.

Mr. George Scott, publisher of the New Coast Pilot, is in Marquette, Mich., at present, and reports by proxy the sale of his late edition as being very satisfactory.

We regret to announce that Mr. Grummend has recently suffered severe loss in the death of his little son aged 9, and well know that earnest sympathy will be felt for him in his bereavement.

J. C. Goss, sailmaker and rigger, is at present enjoying a visit in California, business in the meantime being admirably conducted by Mr. Weed, book-keeper, and Mr. Beck, his energetic foreman, who report business as being fairly brisk.

It is currently reported in marine circles here that Morley & Heal will soon commence building another new vessel at their ship yard in Marine City. The new steamer W. B. Morley, particulars of which were given in a former letter, is drawing near to completion and is having her first coat of paint inside.

Samuel F. Hodge & Co., proprietors of the Riverside Iron works, gave the propeller Gettysburg and the tug Sweepstakes a cleaning out last week, and the tugs Moore and Oswego general repairs; the propellers Passaic, Mocking Bird and Owen for new wheels; the Kate Williams and the Crusader for cleaning out, and the Milton D. Ward had repairs to wheel; the tug William A. Moore was given a new cylinder head and repairs to engine. They also report new business as being fairly active.

The Detroit Boat works are moderately busy and expect future developments.

The schooner McGruder arrived at Alpena Monday with her rigging damaged and stern badly split, the result of a collision with an unknown steamer in Saginaw bay.

One of the composite boats, building by the Detroit drydock company, is for Mr. Livingston and Senator Palmer and the other is for Mr. Ricketson of Milwaukee. Mr. Fitzgerald and others have contracted for one of the wooden boats and they have an option on the second one. Mr. Ricketson is the inventor of a system of electric signals fast coming into use on our large freight steamers.

The East End Boiler works are figuring on new business; in the meanwhile work is steadily progressing.

Captain Alex Ruelle, the genial tug owner of this port, reports business as being moderately good. Has accepted contract with the Drydock Engine works for a new boler to be placed on his tug M. D. Carrington. The dimensions of the boiler: 7 feet diameter, 12 feet 6 inches long, 1-16 steel plating, 60,000 tensile strength, 94 3¾ inch tubes, one set of patent grates with bed plate and one breeching, No. 10, iron.

The Detroit Drydock company have the tugs J. W. Bennet and the Dave and Mose in for repairs. Have also a new lower mast for the Forest City. The San Diego has just underwent a thorough overhauling, viz: general calking and some new floor, ceiling and repairing top works, etc. The steamship Averill will dock today for new wheel.

I omitted mentioning last week that a small blaze had occured damaging the blacksmith shop at the Wyandotte shipyard, however, the damage was so slight that no stoppage of the work was required, and all is moving on briskly as usual.

The propeller Toledo of Ward's line, from Buffalo for Duluth, caught fire from a lamp explosion last Friday morning at the Michigan Central dock. The whole of her upper works were destroyed and other damage done.

SWAIN.

MARITIME LAW.

MARITIME LEIN—SUPPLIES IN FOREIGN PORT —CREDIT OF VESSEL.

U. S. District Court, Eastern District of New York.

On the first of June, 1883, Cory Brothers. & Co., of England who were accustomed to furnish coal to libelant Braga, a coal merchat of Montevideo, entered into a contract with a Spanish steamship company to furnish all the coal required by the latter at Montevideo for the use of its steamers during the remainder of the year 1883, payment to be made by master's draft. Cory Brothers made this contract in their own name, but acted in the matter as the agents of Braga, to whom they sent the contract in the regular course of business between them and Braga. Thereafter Braga furnished coal at Montevideo to three vessels of the steamship company, at their masters request, and received for the same, in each case, the master's draft on the steamship company, which drafts were afterwards accepted by the company. The company subsequently and before the maturity of the drafts went into bankruptcy, and Braga brought this suit against one of the vessels to which he had furnished coal. A mortgagee of the vessel defended on the ground that the coal was furnished on the credit of the owner, not of the vessel. The court, finding as a fact deducible from the foregoing facts that Braga had furnished the coal to the steamship on the credit of the vessel, held that the libelants claim constituted a maritime line on the steamship and libelant was entitled to a decree.

[This was an affirmance of the decree of the district court, which court rendered no opinion.]

Blatchford, J.

In this case I find the following facts:

1. On the first day of June, 1883, Cory Brothers & Company, chaliery proprietors and coal merchants, of London, England, through their agent at Barcelona, Spain, Juan M. Martinez, entered into a written contract, at said Barcelona, with Compania de Transportes Maritimos, of said Barcelona, a corporation duly organized and existing under the laws of Spain under and by which they agreed to sell, and did sell, to the said Compania de Transportes Maritimos, all the coal required by the latter at the port of Montevideo, Uruguay, during the remainder of the year, 1883, for the use of all the steamers of which the said corporation were the managing owners, at the price of 43s 6d British sterling per ton of 20 cwt. payment to be made by the captain's draft on the said Compania de Tranportes Maritimos, at 90 days' sight. payable in London. The said clause in regard to payment was, by said contract, made subject to the approval and consent of Antonio F. Braga, the libelant in this suit, who resided and carried on business at said Montevideo. Exhibit A in the record, annexed to the deposition of Richard Cory, is a copy of said contract.

2. The regular course of dealings between said Cory Brothers & Company and said Antonio F. Braga, at that time was as follows: Braga was a customer of said Cory Brothers & Company, and bought coal from them for his own account, which would be shipped by them to him, to Montevideo. They would enter into contracts to furnish coal at Montevideo to steamships bound there, and advise Braga of such contracts, and send them to him. Such contracts were made by them in their own name as principals, but as between themselves and Braga they were acting as agents for Braga. The customary mode of payment was by captain's draft on managing owners at 30 days' sight, payable in London, to the order of Braga. It was customary for Braga to remit such drafts to Cory Brothers & Company, who would credit their amounts to Braga in account current.

3. The before metioned contract, exhibit A., was mailed in the regular course of their business dealings, by Cory Brothers & Company to Braga on the 8th, of June 1883, and they advised him, that, under competition, they had been obliged to make the payments at ninety days' sight, subject however, to his approval, and that, if he objected to the concession, he had a right to nullify the contract.

4. The libelant furnished at Montevideo, on the 4th of November, 1883 629 tons of coal to the steamship Tivaller, and thereupon received the draft of the master of that vessel at 90 days' sight, on Compania de Transportes Maritimos, payable in London, to the order of the libelant, for £1379 2s 9d; on the 24th of November, 1883, 626 tons of coal to the steamship Claris, and thereupon received a draft of the master of that vessel, at ninety days sight, on Campania de Transportes Maritimos, payable in London, to the order of the libelant, for £1366 13s 2d; and on the 31st of December, 1883, 700 tons of coal to the steamship Solis, and thereupon received a draft of the master of that vessel, at 90 days' sight, on Campania de Transportes Maritimos, payable in London, to the order of the libelant for £1541 4s 6d. All of the said coal was the property of Braga, and none of it was the property of Cory Brothers & Company. The coal so furnished to the steamship Solis was necessary for the prosecution of her business.

5. Braga endorsed and remitted said three drafts to Cory Brothers & Company on account of his general indebtedness to them for coal shipped to him, and Cory Brothers & Company gave Braga credit for their amounts on their books. Said drafts were presented by Cory Brothers & Company to the said Compania de Transportes Maritimos for acceptance, and they were accepted by the latter and made payable in London. The draft for £1541 4s 5d was accepted on February 8th, 1884.

6. The steamship Solis, at the time of the making of said contract, and of the furnishing of said coal to her, was owned by one Pelegrin Pomesay Bordas, of Barcelona, Spain, but was, by special agreement, chartered and managed by said Compania de Transportes Maritimos which corporation was then engaged in running a line of steamers between the river LaPlata and European ports.

7. The master of said steamship Solis had notice of the existence of said contract and had instrucitons from the said Compania de Transportes Maritimos, to obtain the necessary supply of coal at Montevideo under said contract.

8. On his arrival at Montevideo, the said master, on his own request, made to said Braga, obtained the necessary quantity of coal from said Braga for said steamship Solis, and signed the said draft for the value of the coal delivered on board of said steamship, according to the price and the terms mentioned in said contract.

9. The invoice for said 700 tons of coal supplied by said Braga to the steamship Solis, was made out, and the said coal was charged, to Compania de Transporte Maritimos and payment of the same was acknowledged by the said Braga, at the foot of the invoice, in the followidg words: "Received in payment a bill drawn by Captain Luis Cairo to my order, and at 90 days' sight, on the Compania de Transportes Maritimos, of Barcelona, payable in London, Antonio Fernandez Braga, per Walter Harley."

10. After the acceptance and before the maturity of the said three drafts, the said corporation became insolvent and went into bankruptcy, in conformity with the laws of Spain. Regular legal proceedings were instituted in the proper court in Barcelona to wind up the corporation. In these proceeding Cory Brothers & Co. presented their claims as creditors against the said corporation for the amounts of the said three drafts, and the same were allowed in favor of said Cory Brothers and Company, as proper claims against said corporation, and as entitled to shares in the proceeds of its assets.

11. At the time when the said contract was made, and at the time when the said coal was delivered to said steamship Solis, the claimant herein, the steamship City of Lincoln company, limited, a corporation organized and existing under the laws of the United Kingdom of Great Britian and Ireland, was the mortgagee of the said steamship Solis, her engines, etc., by virtue of a mortage for £16, 500 British sterling, which mortgage was given to it by said Pelegrin Pomesy Bordas, for part of the purchase price of said steamship, sold to him by said claimants; but said steamship was in the possession of said Compania de Transportes Martimos with the assent of said Pelegrin Pomes y Bordas and of said claimant.

12. The said draft for £1541 4s 5d was on the trial of this action in the district court, tendered to the proctor for the claimant, and filed in that court.

13. The facts stipulated as existing facts, in the stipulation in the record dated May 11th, 1888, signed by the proctors for the respective parties are existing facts.

14. Nothing occured in regard to the giving and taking of said draft for £1541 4s 5d in payment for said coal except what is contained in said exhibit A and in said receipt at the foot of said invoice.

15. As a fact deducible from the foregoing facts the libellant furnished said coal to said steamship Solis on the credit of said steamship.

On the foregoing facts I find the following conclusion of law.

1. The claim of the libellant constituted a maritime lien on said steamship Solis.

2. The libellant is entitled to a decree for the sum of $7,458.44, with interest from January 1st, 1884, and for $62,65, his cost in the district court, as taxed, and for his costs in this court, to be taxed.

June 28, 1888.

THE CLUSTER OF STARS TO WHICH OUR SUN BELONGS.

The Uranometria Nova of Argelander gave the positions of the lucid stars of the northern sky, and it has been suplemented by the Uranometria Argentina of Dr. Gould, which covers the southern sky. With the steller statistics of the the whole sky before him Dr. Gould was in a position to draw some extremely interes ing conclusions with respect to the arrangement of the brighter stars in space, and to the situation of our solar system in relation to them. The outline of his reasoning can be given here, but the numerical evidence upon which his conclusions are founded must be omitted. In the first place, it is fairly proved that in general the stars that are visible to the naked eye, the lucid stars, are distributed at approximately equal distances from one another, and that on the averages they are of approximate equal brilliancy. If we make a table of the number of stars of each seperate magnitude in the whole sky we shall find that there are proportionately many more of the brighter ones, from first to fourth magnitudes, than of the fainter, from fourth to seventh magnitudes. That is, there is an unfailing and systematic excess of the observed number of the brighter stars. We cannot suppose, taking one star with another, that the difference between their apparent brightness arises simply from real difference in size, but we must conclude that the stars from the first to fourth magnitudes, some 500, are really nearer to us than the fainter stars. It therefore follows that these brighter stars form a system whose seperation from that of those of the fainter stars is marked by the change of relative numerical frequency.

What, then, is the shape of this system? and have we any independent proof of its existence? Sir John Herschel and Dr. Gould have pointed out that there is in the sky a belt of brighter stars which is very nearly a great circle of the sphere. This belt is plainly marked, and it is inclined about 80° to the Milky Way, which it crosses near Cassiopea and the Southern Cross. Taking all the stars down to 4.0 magnitude Dr. Gould shows that they are more symmetrically arranged with reference to this belt than they are with reference to the Milky Way. In fact, the belt has 264 stars on one side of it and 263 on the other, while the corresponding numbers for the Milky Way are 245 and 282. From this and other reasons it is concluded that this belt contains brighter stars because it contains the nearest stars, and that this set of nearer and brighter stairs is distinctively the cluster to which our sun belongs. Leaving out the brighter stars which may be accidentally projected among the true stars belonging to this cluster, Dr. Gould concludes that our sun belongs to a cluster of about 400 stars; that it lies in the principal plane of the cluster, since the belt of bright stars is a great, not a small circle; and that this solar cluster is independant of the vast congeries of stars which we call the Milky Way.

We know that the sun is moving in space. It becomes a question whether this motion is one common to the solar cluster and to the sun, or only the motion of the sun in the solar cluster. The motion has been determined on the supposition that the sun is moving and that its motion is not systematically shared by the stars which Dr. Gould assigns to the solar cluster But a very important research will be to investigate the solar motion without employing these 400 stars as data.—Professor Edward S. Holden in the September Century.

ITS FIRST SHIPMENTS.

The propeller City of Cleveland and schooner Thos. Quayle went into Two Harbors and are taking on the first cargoes of ore ever shipped from the Chandler mine. The event is more of an era in the history of the Vermillion iron district and of the northwest than appears at first glance. It is the first actual shipment, recognizing the fact that the Vermillion range covers more territory than the Minnesota company's Tower mines and of full as great richness, and that their deposits are being worked. The Chandler is already recognized as the greatest single deposit on the entire range yet developed or likely to be for some time and its showings and grades of mineral are wonderful indeed. It has been hoped to ship 50,000 tons of ore from the mine this season but owing to various causes, the delay in completing the railroad and others, it is probable that not more than 30,000 gross tons will be sent out. The ore is of fine quality, somewhat different from that of other mines on the range and is kept separate. Cargoes are about 3,000 gross tons.

In a year from this date there will be several more new properties on the east range shipping ore as well and at last one the Mesabs, and the district will rapidly grow.

BILL NYE AT THE BROOKLYN NAVY YARD.

Things continue so crookedly gloomy in the vicinity of the Wallabout, says the New York Seaboard, that the following extracts from an official report of Brooklyn's boss humorist will be swallowed with zest. Says Mr. Nye, "sez he":

"The Atlanta is a fair representative of the modern war vessel and would be the most effective craft in the world if she could use her guns. She has all the modern improvements, hot and cold water, electric lights, handy to depots and a good view of the ocean but when she shoots off her guns they pull out her circles, abrade her deck, concuss her rotunda, contuse the main brace and injure people who have always been friendly to the government. Her guns are now being removed and new circles put in, so that in future she will be enabled to give less pain to her friends and squirt more gloom into the ranks of the enemy.

"Politics has very little to do with the conduct of a navy yard. No one would talk politics with me. I could not arouse any interest there at all in the election. Every one seemed delighted with the present administration, however. The navy always feels that way. In the choky or brig at the guard-house I saw a sailor locked up who was drunk. 'How do you get here, my man' I asked. "Through thinfloonce of prominent democrats you damphool. Howje spose?" he unto me straightway did reply. The sailor is sometimes infested with a style of arid humor which asserts itself in the most unlooked-for fashion. I laughed heartily at his odd, yet course repartee. and went away.

"The Richmond is a large but buoyant vessel painted black. It has a front stairway hanging over the balcony, and the latch string to the front door was hanging cheerily out as we drew alongside. During an engagement, however, on the approach of an enemy, the front stairs are hauled up and the latch string pulled in, while the commanding officer makes the statement "April Fool" through the speaking trumpet to the chagrined and infuriated foe. The guns of the Richmond are muzzle loaders, i. e., the load or charge of amunition is put into the outer or other end of the gun instead of the inner extremity or the base of the gun, as is the case with the breech-loader. The breach-loader is a great improvement on the old style gun, making warfare a constant source of delirious joy now; whereas, in former time, in case of a naval combat during a severe storm, the man who went outside the ship to load the gun while it was raining, frequently contracted pneumonia. Modern guns are made with breeches, which may be easily removed during a fight and replaced when visitors come on board. A sort of grim humor pervades the above remark."

A NEW CONVICTION.

To the Editor of the Marine Record:

Noticing some kind friend from Detroit signing himself as W. Johns, making a few sharp comments on G. A. B.'s letter on excursion steamers, paticularly of my claiming that Detroit was a foreign port. Excuse me. I stand corrected at that moment, no doubt I was in a trance and thought the beautiful City of Detroit was in France, knowing I had only to take a ferry boat to get on the British grounds, and not a thought to abuse that enterprising city, but would like to be one of her number as a citizen. My object in writing was to show the lack of interest in our great city, and the Forest City of Ohio. My friend claims the citizens will look into this matter as soon as excursion business becomes prosperous enough to admit of a larger, and more elaborate class of vessels. I will assume that the time has come now; we will take the surrounding country for one hundred miles; our good people would make it their entire trips for pleasure, instead of going to the inland pleasure resorts. Your writer no doubt has done most of his traveling by rail, as my unknown friend claims, but I have been on water some.

I only hope we can gather up an interest so we can place one of the largest steamers on the lakes for our interest, pleasure, and financially to our prospering city, advantage as well as to the comfort of all next season. G. A. B.

A German paper, in an article on the present method of rope manufacture from hemp, and the determination of the different qualities and probable strength simply from the appearance, lays down the following rules: A good hemp rope is hard, but pliant, yellowish or greenish gray in color, with a certain silvery or pearly lustre. A dark or blackish color indicates that the hemp has suffered from fermentation in the process of curing, and brown spots show that the rope was spun while fibres were damp, and is, consequently, weak and soft in those places. Again, sometimes a rope is made with inferior hemp on the inside, covered with yarns of a good material, a fraud, however, which may be detected by dissecting a portion of the rope, or, in practised hands, by its behavior in use; other inferior ropes are made from short fibres, or with strands of unequal length or unevenly spun, the rope in the first case appearing woolly, on account of the number of ends of fibre projecting, and, in the latter case, the irregularity of manufacture is evident on inspection by any good judge.—*The Seaboard.*

Dixon's Black Lead
[OR POT LEAD]
For Bottoms of Yachts.
Specially Prepared for the Purpose and Unequalled for Purity and Uniformity of Grain.
JOSEPH DIXON CRUCIBLE CO.,
Jersey City, N. J. New York Office, 68 Reade St

LOUIS LEMON'S TUG LINE.
TUGS:
ONEIDA, C. D McKINNON, QUICKSTEP.
River and Harbor Towing---Raft Towing a Specialty.
OFFICE 303 ATWATER ST. TELEPHONE 514.
DETROIT, MICH.

Travelers' Information Bureau.
Ocean, Lake and Railroad
TICKET AGENTS
224 Bank St., CLEVELAND, O

HENRY ESCH,
Groceries and Provisions,
Fresh and Salt Meats,
DRY GOODS AND CLOTHING.
Special attention given to vessel supplies.
Corner of Jay and 9th st.. Manitowoc, Wis.

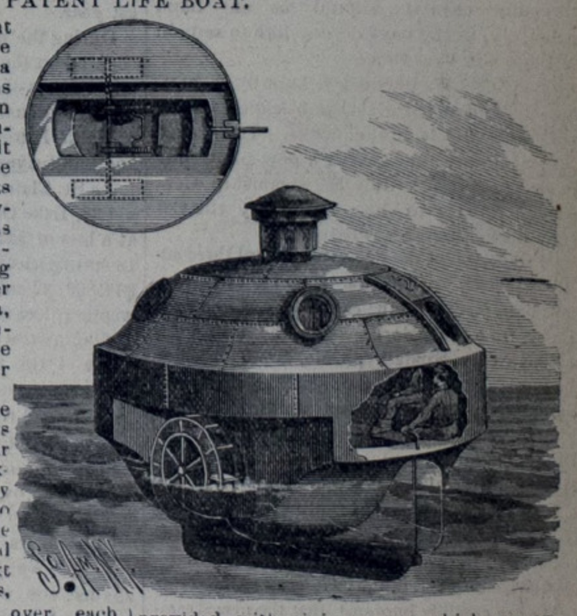
MARTIN MULLEN, Agent,
DEALER IN
Youghiogheny & Massillon Coal
DOCKS AT GOVERNMENT PIER AND RIVER BED SLIP.
Office. 81 Perkins Building, East Side of Main Street Bridge. CLEVELAND. OHIO.
Telephone No. 2701.
BOATS COALED DAY OR NIGHT.

NOTICE TO MARINE MEN.
LATE official charts, showing the straight channel, now being dredged, and soundings in bay and river are for sale by
GEO. E. HARDY, Marine Collector,
207 Madison street, Toledo, Ohio
Price 50 cents by mail.

FOR SALE.
STEAM pleasure boat, capacity 50 people, 44 feet over all, 11 feet beam, draws 4½ feet of water. Good machinery. Apply to
D. RANKIN,
Room 2, 127 La Salle St., Chicago, Ill.

PROPOSALS FOR CONSTRUCTION OF SUPERSTRUCTURE.—U. S. Engineer office, 89 Euclid Avenue, Cleveland, Ohio, August 28th, 1888 Sealed proposals, in duplicate, will be received at this office until 11 o'clock a. m., on Friday, the 14th day of Sept., next, at which time they will be opened in presence of bidders, for constructing 350 lineal feet, more or less, of superstructure on east breakwater at Cleveland, Ohio. Forms, specifications and other information can be obtained at this office. The United States reserves the right to reject any and all proposals. L. COOPER OVERMAN, Major of Engineers.

PATENT LIFE BOAT.



This invention relates to that class of small boats which are carried by ships and other sea going vessels to use as a means of escape from the vessels in case of any accident which renders the same untenable; and it has for its object to provide means whereby such life boats shall be made capable of carrying a large number of persons with provisions, means of guarding said boat against being swamped by launching under excitement or on a rough sea, and means whereby the occupants may propel and guide the boat without permitting water to enter.

The characteristic difference of this boat from common boats is, first, that this boat is circular in its horizontal sections, except that a segment is cut away from each of the two sides to admit the propelling paddle wheels within the theoretical circle, the sides of the boat next the wheels being vertical planes, and the floor of the boat over each wheel being a horizontal segment, serving as a seat or as storage room inside and, a cutwater, a keel, a stern post, and a rudder are formed outside of the circular contour; second, the hull of the boat is provided with sides, forming a vertical cylinder, and a roof nearly spherical joining the upper edge of the cylinder. Thus the hull of the boat is a complete shell approximately spherical and impenetrable to water. The roof is provided with lights sealed around, and with a cupola, at its summit, perforated for ventilating the interior, the perforations being guarded against any direct entrance of water.

There is a door for entrance and exit, and it is adapted to be closed water tight by a packing around the doorway. The interior is provided with seats, and straps with buckles are secured to the walls to draw over the bodies of occupants to sustain them in extremely rough weather, and loops are also secured below the seats for the occupants to thrust their feet in for the same purpose.

The wheels are secured upon short shafts provided with pinion gears which are engaged and operated by spur gears mounted on a crank shaft, which revolves in bearings secured to the boat, the crank extending across the interior of the hull, in a position convenient to be worked by the occupants. The bearings of the wheel, shafts and rudder post are packed to exclude water.

The cupola at the top, furnishing air, may be a tube of any desired height, and the boat may be any size, to hold from one person to one hundred, or even more. The keel is provided with a sufficient amount of fixed ballast to keep the boat right side up with any load which it can properly carry.

It is estimated that a boat of this style, twenty feet in diameter, can seat and carry one hundred and twenty-seven persons of an average weight of one hundred and forty pounds each, with water and provisions for a few days and that a boat of this size may be propelled by four men at the rate of eight miles an hour.

For further particulars address Tobias Hamilton, Martinsville, Ohio.

VESSEL OWNERS AND AGENTS.

C. J. MAGILL,
VESSEL AGENT,
Vessels Chartered, Bought and Sold, Lake Freights and River Tow Bills Collected and promptly remitted.
94 Board of Trade, Chicago, Ill.

C. W. ELPHICKE. JAS. A. MYERS
C. W. ELPHICKE & CO.,
Vessel Agents
AND
MARINE UNDERWRITERS.
6 and 8 Sherman St.,
Rooms 10 and 11 Parker Block CHICAGO, ILL.

H. J. WEBB & CO.,
Ship Brokers, Vessel Owners and Agents.
[ESTABLISHED IN 1856.]
H. J. WEBB & Co., will charter Vessels for Lake Trade. pecial attention given to Chartering Vessels in the ake Superior Iron Ore Trade, both for the season and ngle trip.
ARCADE BUILDING, 101 ST. CLAIR ST.,
Room 27. Cleveland, Ohio.
TELEPHONE { Office, No. 338. Residence, No. 1328.

WARNER & BECKER,
Vessel Agents and Brokers,
ROOM 10,
Arcade B'ld., 101 St. Clair St.,
CLEVELAND, OHIO.

J. J. H. BROWN. EDWARD SMITH
BROWN & CO.,
Ship Brokers and Agents.
Special Attention given to Surveying, Appraising and Settling Marine Losses.
Exchange Building, 202 Main-st., Buffalo, N. Y.

ALEX McDOUGALL,
VESSEL AGENT AND BROKER,
Duluth.
Owners and masters of vessels wishing to get cargoes of grain from this port will do well to confer with me. Will be glad to furnish information in regard to cargoes, also in relation to docks, depth of water, etc., at Duluth, Agate Bay (new iron ore port), Port Arthur, Washburn, Ashland, and all points near the west end of Lake Superior. Good gangs of men furnished on short notice for trimming cargoes of grain, loading and unloading all kinds of freight.

PALMER & BENHAM,
Vessel Owners & Agents,
New Bank Building, corner of Superior and Bank Street, Cleveland, Ohio.

MOORE, BARTOW AND GILCHRIST,
Ship Brokers and Agents.
No. 101 St. Clair Street, Room 15.
CLEVELAND, OHIO.

JAMES T. ROSE,
Vessel Agent and Broker,
Marine Insurance,
Room 6, Exchange Building, Duluth, Minn.
I have an excellent gang of Trimmers this season, Captain Miller's old Crew.
Special Attention Paid to Chartering Vessels, and seeing that they get dispatch in Port.
CORRESPONDENCE SOLICITED.

THOS. WILSON
MANAGING OWNER
Wilson's Transit Line.
Gen. Forwarder. Freight and Vessel Agent.
CLEVELAND, O.

C. A. KING,
General Stevedoring, Discharging Loading and Ore Trimming Promptly Attended to. A Large Force of Men always on Hand. Information in regard to
DEPTH OF WATER OF ALL DOCKS IN
ASHLAND HARBOR
gladly furnished. Quick dispatch guaranteed. Patronage Solicited.
C. A. KING, Ashland Wis.

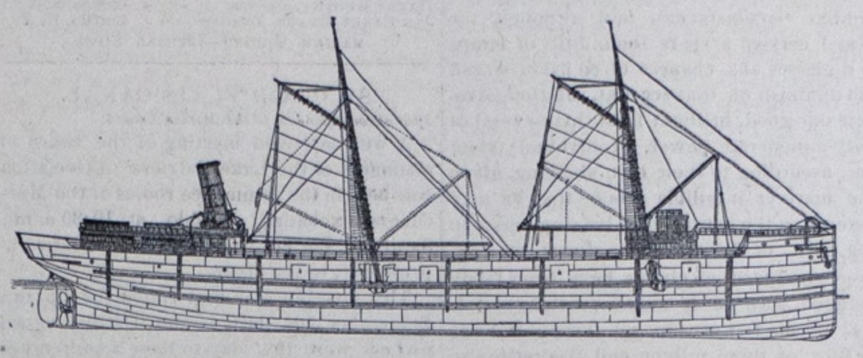
WM. H. DeWITT,
Attorney and Proctor in Admiralty.
ROOM No. 6, BLACKSTONE BLOCK.
CLEVELAND, OHIO.

C. E. BENHAM,

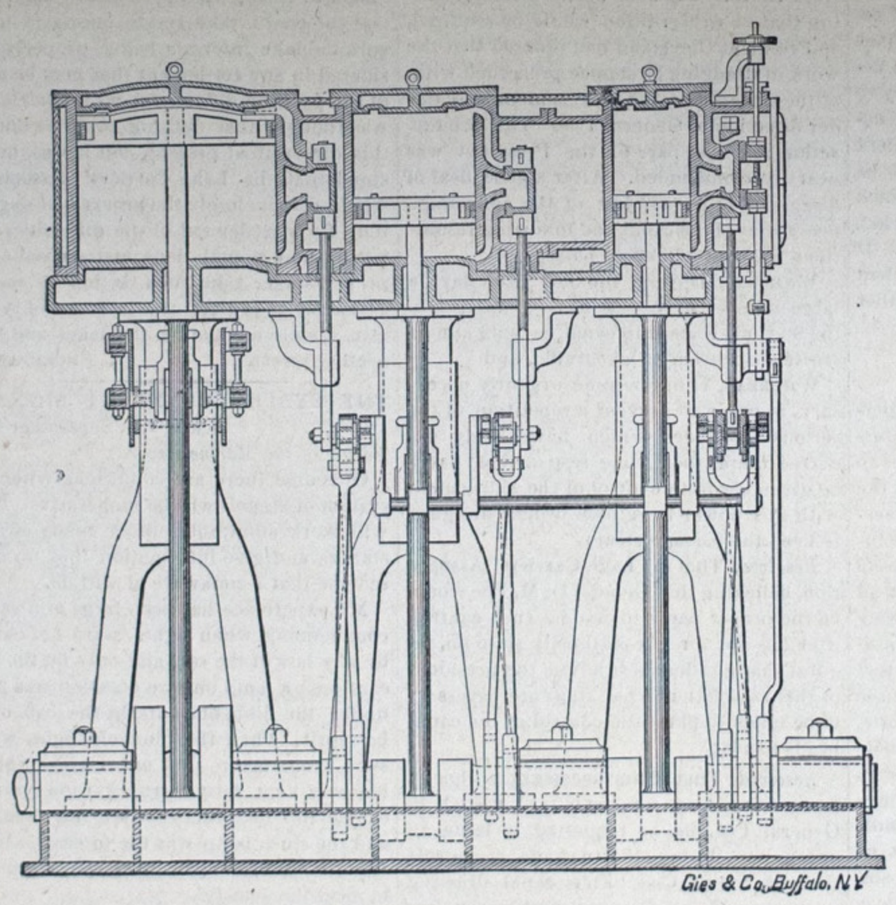
DEALER IN GROCERIES, AND PROVISIONS.
Green Canned goods.
FAMILY AND VESSEL SUPPLIES.
GOODS DELIVERED TO ALL PARTS OF THE CITY
121 River-st, Cleveland, O. Telephone 745.

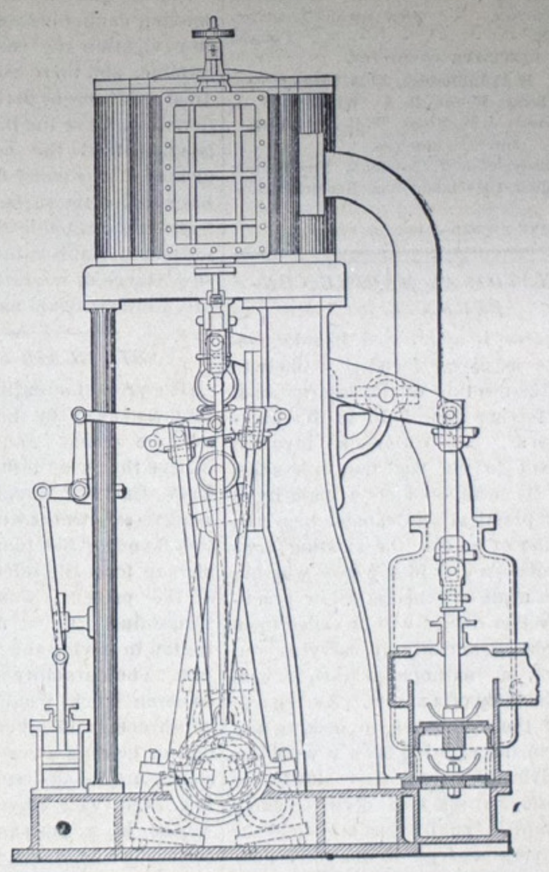
Cleveland Block Co.,
MANUFACTURERS OF
Iron Tackle Blocks
TAKING THE PLACE OF WOODEN BLOCKS FOR ALL PURPOSES.
159 River St., CLEV[illegible], PORT HURON - - MICH.

H. D. COFFINBERRY, PRES'T. ROBERT WALLACE, VICE PRES'T. WM. M. FITCH SEC'Y.
THE CLEVELAND SHIP-BUILDING COMPANY,
Detroit and Center Streets, Cleveland, Ohio,
IRON SHIPS.



Marine and Stationary
ENGINES AND BOILERS,
Blowing Engines and Steam Hammers,
AND MILL GEARING AND CASTINGS.
Repairing and Jobbing Solicited. Office on Viaduct.
PHŒNIX IRON WORKS.


Gies & Co. Buffalo, N.Y.



Manufacturers of
STEEPLE FORE AND AFT COMPOUND, AND TRIPLE EXPANSION
MARINE ENGINES WITH BOILERS OF MODERN DESIGN.
PORT HURON, MICH.

ED. J. KENDALL.
The Marine Reporter,
Collections Made and Prompt Remittance. Orders Promptly Delivered with Small Boat Day or Night—Reference Port Huron Savings Bank,

J. R. OLDHAM, C. E.,
Naval Architect,
Marine Inspector.
SPECIAL EXPDRIENCE IN DESIGNING, PRICES SELF-TRIMMING HATCAES, COAL SHUTES AND BLAKL'S PATENT BOILERS.
32 Exchange Bld.,
BUFFALO, N. Y.

MARINE REPORTER AT THE STRAITS.
Reports of Passing Vessels a Specialty.
Messages Delivered to Passing Vessels Day or Night, Weather Permitting.
MY ICE REPORTS MAY BE RELIED ON.
SEVENTEEN YEARS EXPERIENCE.
The Patronage of the Marine Public Respectfully Requested--Charges Reasonable.
F. J. STIMPSON, MACKINAW CITY MICH

ROBERT E. HILLS,
57 & 59 North Wells St., Chicago, Ill.
Telephone 3321.
STEAM FITTING AND HEATING,
Wrought Iron Pipe & Fittings
ENGINEER'S SUPPLIES.
General Jobbing Work Done Promptly.
Also, Proprietor of North Side Brass Work

Marine Record.

Published Every Thursday at 144 Superior Street, [Leader Building] Cleveland, O.

A. A. POMEROY, EDITOR AND PUB

BRANCH OFFICE:
252 South Water Street, Chicago, Illinois,
THOMAS WILLIAMS, Associate Editor.

TERMS OF SUBSCRIPTION:
One year, postage paid.....$2.00
Six months, postage paid..... 1.00
Invariably in advance.

THE MARINE RECORD can be found for sale by the following news dealers:

CLEVELAND, O.—G. F. Bowman, corner of Pearl and Detroit Streets.

Evans & Van Epps, Superior street, Cleveland.

R. A. Castner, 254 Detroit street, Cleveland.

ASHTABULA HARBOR, O.—C. Large.

CHICAGO, ILL.—Joseph Gray, 9 West Randolph Street.

CHICAGO, ILL.—H. B. Hansen, 33 West Randolph Street.

BUFFALO, N. Y.—Miss McCabe, Elk Street, near Ohio.

DETROIT, MICH.—Connors' Marine News Co.

MILWAUKEE, WIS.—T. S. GRAY, CO. 196 Wisconsin St.

SAULT STE MARIE—J. P. Haller.

ASHTABULA HARBOR—O. M. Kahne

ERIE, PA.—Reed Caughen, 816 State St.

DULUTH, MINN.—C. F. Johnson, 323 West Superior Street.

MARQUETTE, MICH.—J. A. Vannier.

ESCANABA, MICH.—Wm. Godley.

ESCANABA, MICH.—George Preston.

SARNIA, ONT.—D. McMasters.

OWEN SOUND, ONT.—J. Sharpe, Jr.

KINGSTON, ONT.—F. Nisbet, corner Brock and Wellington Streets.

Subscribers and others are respectfully invited to use the columns of the MARINE RECORD for the discussion of pertinent topics.

Entered at the Post Office at Cleveland as second-class mail matter.

CLEVELAND, O., SEPTEMBER 13.

CLEVELAND VESSEL OWNERS' ASSN'

ORGANIZED IN 1880.

[Membership, 1887]

Sixty-five steamers aggregating.....67,865 tons
Ninety-five sail and consort, aggregating 60,089 tons.
Maintains shipping offices at Cleveland and Ashtabula Harbor. Regulates wages, protects crews, and es cognizance of all matters in the interest of its mbers and of the Lake Commerce generally.

OFFICERS.

H. M. HANNA, - - - - - - President
H P. LILLIBRIDGE, - - - - - Vice President
L. PENNINGTON, - Secretary and Treasurer.
D. GOULDER - - - - - - - Counsel

EXECUTIVE COMMITTEE.

H. M. Hanna, H. P. Lillibridge, M. A. Bradley, Geo. P. McKay, Thomas Wilson, R. K. Winslow, W. D ees, J. H. Palmer. J. W. Moore, W. C. Richardson.

SHIPPING MASTERS.

A. R. Rumsey, 98 dock, Cleveland; Fred Bennet. assistant, 98 dock, Cleveland; Wm. Reunick, Ashtabula Harbor.

MARINE RECORD—OFFICIAL PAPER.

INTERNATIONAL MARINE CONFERENCE.

Much interest is manifested in lake marine circles as to the legislation likely to arise from the meeting of the international marine conference to be held in Washington next year. All interests involved seem to point to the fact that unless this conference is composed of a majority of thoroughly practical and capable men the efforts to alter or amend the existing laws may result disastrously in any case, whether the changes made are theoretical or practical. The vessel owner will be called upon to sympathize financially in carrying out the ideas of, let us hope at least, a wise and practical body of experts. As regards the rules of the road at sea, in making any alterations in the existing laws, it would be strongly advisable to make haste slowly, for where collisions at sea have occurred and a full and complete inquiry has been held the officials having charge of the case have been in a position to locate the faults without any trouble and their decision accepted without further legislation.; and when it is considered that the present law applies to each and every position in which two or more vessels can be placed, and states exactly how each ought to act in the case of imminent danger, then having adopted the usual precautions of mariners, it is rather difficult to see just how many amendments could be worked into the present laws without tampering with the direct sense and spirit of the existing "rules of the road." Individuals will be found who could guarantee a more clear, concise and comprehensive code than that which we now observe. A syndicate may also be formed even at the convention who, for the sake of personal celebrity, may advocate certain, so called, necessary changes and advantages in the wording of the rules, only to find out that after a few year's experience the present laws had better have remained in force. The many changes suggested and the numerous amendments proposed will need to be keenly watched and carefully analyzed before being sanctioned by the American members of the conference, for it must be clearly understood that the present laws are not decided individually; nor are the rules determined, in one way, by one nationality and in a different spirit by another, (for if this were the case the immense traffic on the oceans would long ago have pointed out the weakness of the sailing and steering articles,) but are considered as iron bound international rules to be strictly observed by all who wish to navigate the waterways of the world in safety; and in this matter it would be in order for us to notice the many suggestions offered in the way of lamp signals and side lights, three lights on each side having been advocated recently by certain individuals, forgetting that in the multiplicity of signals lays confusion, and also that if one good light is not visible neither would two or more be seen under similar circumstances, and although the vessel carried a spare room full of lamps and glasses the chances of collision would not diminish on that account. Rather advocate one good, brilliant light than several of only a moderate power. Individual talent has, according to their own showing, given the mariner infallible proofs that he may determine the course of a passing vessel in fog, mist, or falling snow almost to a degree, and maritime circles have been fairly deluged with ideas and inventions of this sort for the last decade, yet there is not one in fifty of these unique and theoretical, so called, systems that would stand the test of a practical application; hence the necessity of going slow before adopting a system that may apparently be correct in theory, work capitally on paper and yet be useless in actual practice.

The intended discussion of the various systems employed for the saving of life and property from ship wreck, will be an excellent means of ventilating our life saving appliances and must certainly redound to the national prestige; at the same time evidence will be brought forward by the French and English delegates proving the necessity of having a system of distant or semaphore signals to be used in communicating with all life saving stations on these waters; and this system so persistently advocated by the French is exceedingly valuable as wants may be made known without the assistance of a code of flags and signal book, and in these waters especially a knowledge of the semaphore or distant signals would be of much more benefit to our mariners than compelling the vessel to carry a full code of flags as has been recently suggested, and of which no use could be made either in a small boat or on a beach.

For the quickest and best methods of removing dangerous wrecks and obstructions to navigation the conference will soon determine, and there can only be one way to treat a dangerous derelict of whatever nationality. Once the international agreement is understood the north Atlantic will be cleared of the many floating dangers which has studded the surface for so long a period, menacing valuable life and property. If for no other, this cause alone is of sufficient importance to warrant the calling together of an international marine conference.

ST. CLAIR SHIP CANAL

The prompt attention given to this important waterway by the powers that be, during the recent trouble, encourages us to believe that if an influential body like the Lake Carriers' association and the Cleveland vessel owners were to adopt a resolution favoring the plan of having concrete piers to form the sides of the canal instead of the present wooden structure, they would find little or no difficulty at Washington in having this improvement carried out. The durability and strength of these concrete blocks would admit of iron posts, mushrooms and other appliances for mooring, or holding a vessel in the event of such a measure being desired. These piers having been well located and firmly built would be a permanent improvement as opposed to a naturally decaying fabric, and the first cost would be the only outlay for a lengthy period.

The sand and small stones to be used in forming the concrete blocks could be easily transported to the present embankment, and there room enough would be found for working the compound into blocks of one, two, or three tons weight, or any size or shape that would be found desirable for the different portions of the work. These blocks could then be placed in position from the ground on which they were made, and since a large amount of money has to be expended in needed improvements at this point a useful, strong and sightly piece of workmanship might take the place of the sheathed piling structure as suggested at the present time. Many more points might be advanced in favor of the concrete piers, and in this connection the writer would wish to remark, that in a recent conversation with Mr. Grummond, of Detroit, that gentleman conceded with the above views, and suggested that with the building of one other pier both an up and a down channel could be obtained at that point.

LAKE CARRIERS' ASSOCIATION

TO CONSIDER AND TAKE ACTION UPON ALL GENERAL QUESTIONS RELATING TO THE NAVIGATION AND CARRYING BUSINESS OF THE GREAT LAKES AND THE WATERS TRIBUTARY THERETO, WITH THE INTENT TO IMPROVE THE CHARACTER OF THE SERVICE RENDERED TO THE PUBLIC, TO PROTECT THE COMMON INTEREST OF LAKE CARRIERS, AND PROMOTE THEIR GENERAL WELFARE.

BOARD OF MANAGERS, 1888.

THOMAS MARTIN, - - - - -	Oswego, N. Y.
JAMES ASH, - - - - - -	Buffalo, N. Y.
W. BULLARD, - - - - - -	Buffalo, N. Y.
S. D. CALDWELL, *President* - -	Buffalo, N. Y.
E. T. EVANS, - -	Buffalo, N. Y.
W. P. HENRY, - - - -	Buffalo, N. Y.
P. P. MILLER, - - - - - -	Buffalo, N. Y.
FRANK J. FIRTH, *Vice President*, -	Erie, Pa.
M. A. BRADLEY, - - - -	Cleveland, O.
H. M. HANNA, - - - - - -	Cleveland, O.
THOMAS WILSON, *Vice President*, -	Cleveland, O.
A. W. COLTON, - - - - - -	Toledo, O.
JAMES W. MILLEN, *Vice President*,	Detroit, Mich.
EBER WARD - - - - -	Detroit, Mich.
JAMES DAVIDSON, - - - -	Bay City, Mic
JOS AUSTRIAN, - - - - - -	Chicago, Ill.
W. M. EGAN, - - - - - -	Chicago, Ill.
IRA H. OWEN, *Vice President*, - -	Chicago, Ill.
R. P. FITZGERALD, - - - - -	Milwaukee, Wis.
DAVID VANCE, - - - - - -	Milwaukee, Wis.
ALEX MCDOUGALL, - - - -	Duluth, Minn.
HARRY MURPHY, *Secretary*, - -	Buffalo, N. Y.
JAS. CAREY EVANS, *Treasurer*, -	Buffalo, N. Y.

MARINE RECORD—OFFICIAL PAPER.

ST. CLAIR FLATS CANAL.

Special correspondent to the Marine Record.

A well attended meeting of the board of managers of the Lake Carriers' Association was held in the committee rooms of the Merchants exchange, Buffalo, at 10:30 a. m., Saturday, the 8th inst., Mr. S. D. Caldwell, president, in the chair.

This meeting was first called for 2 p. m., September 7th, but as the Detroit vessel owners were that day to have a conference with General Poe upon the subject of the blockade at St. Clair Flats canal, the meeting was postponed until Saturday, the 8th when, after hearing the result of that conference, it was thought the Lake Carriers' Association would be better able to deal with the subject.

It appeared from correspondence read, that, prior to the day set for the meeting, and after the call had been issued, it was made apparent from the number of vessels grounding at the St. Clair Flats that something must be immediately done to relieve the situation, and it was suggested that, as General Poe had no authority to at once remove the obstructions in the canal, the managers here advance a fair share of the amount necessary to dredge and make passable the channel in the canal. This was agreed to, and the agreement telegraphed to the Detroit vessel owners. In the meantime Mr. Caldwell, on behalf of the Lake Carriers' Association, had telegraphed President Cleveland, calling his attention to the serious delays caused by the obstructions in the canal, and asking him to give to General Poe such special authority and instructions as would enable him to proceed to remove immediately the obstructions. A telegram from Detroit was read at the meeting, stating that no subscription would be required, as President Cleveland had ordered that the work of dredging be at once proceeded with, at the expense of the government and under direction of General Poe. This prompt action on the part of the President was heartily commended. After a good deal of discussion of the subject of the immediate necessities of the canal, the following resolutions were unanimously passed:

WHEREAS, During the last few days a large number of vessels have grounded in the St. Clair Flats ship canal, causing almost entire suspension of lake traffic, and

WHEREAS, It has become urgently necessary, in order to prevent a repetition of the serious blockades which have lately occurred there, that some responsible party be given absolute control of the ship canal, with full power to enforce orders designed to keep the passage clear;

Resolved, That the Lake Carriers' Association, believing that General O. M. Poe would be the proper party to assume such control, if he has not already authority so to do, request that gentleman to advise the president of this association what steps are necessary to be taken to place the control of the canal in his hands;

Resolved, That if the necessary authority is now, or may be hereafter, vested in General Poe, he be requested to issue an order prohibiting the passage of vessels through the St. Clair Flats canal drawing more than 15 feet 6 inches, and to regulate the passages so that downward bound vessels will have the right of way;

Resolved, That certified copies of these resolutions be forwarded to General Poe and to other interested parties.

The subject of the permanent improvements was then taken up, and the following resolutions passed:

WHEREAS, An appropriation of $75,000, was made by congress during the present year, to be expended on the St. Clair Flats canal and the Grosse Pointe bar, or on the canal alone, at the discretion of the United States engineer; and,

WHEREAS, General O. M. Poe, engineer in charge, desiring to conform to the wishes of the shipping interests, has invited the opinion of vessel owners as to how the above named appropriation should be expended;

Resolved, That the board of managers of the Lake Carriers' Association join in the recommendation of the Detroit vessel owners, that General Poe be requested to spend $70,000, of this appropriation upon the permanent repairs needed at the St. Clair Flats ship canal, and the remaining $5,000, in removing boulders and lumps at Grosse Pointe bar.

Resolved, That certified copies of these resolutions be forwarded to the secretary of the treasury, to General Poe, and to other parties interested.

RAFT TOWING.

The subject of the towing of rafts on the lakes and in their connecting rivers was next taken up. It was the unanimous opinion of the meeting that the present method of towing large rafts of logs with but a single tug, through the narrow channels connecting the lakes, is a constant menace to the safety of lake vessels of all classes; and as this danger is constantly increasing, owing to the increase in raft towing, it was felt that some steps should be immediately taken to ensure greater safety to vessels meeting or passing rafts. Many instances were cited where vessels were so crowded by large unwieldly rafts that they were compelled to run through and break up the rafts in order to keep from going ashore themselves. Various suggestions for relief were made, and it was finally agreed to instruct the secretary to inquire of the secretary of the treasuay whether the treasury department has power to regulate the towing of rafts of logs, in the great lakes and their connecting rivers.

HOUSE BILL 10,041.

House bill 10,041, extending the criminal jurisdiction of the circuit and district courts to the great lakes and their connecting waters, was next discussed. It was understood that this bill had passed the house of representatives, but was still under consideration in the senate, and the president was asked to write Senators Evarts and Hiscock requesting them to assist in procuring the immediate passage of the bill by the senate.

GRAIN SHORTAGES.

Attention was next called to the numerous and serious shortages in grain cargoes from Duluth. A number of instances were given where the shortages ranged from one to seven bushels per thousand. From information received by the secretary as to the testing of elevator scales at Duluth, it was believed by the gentlemen present that the shortages complained of were almost wholly due to the infrequent and imperfect testing of the scales in the elevators at that port, and the secretary was instructed to write the Duluth board of trade, stating these facts, and asking that they take such action as will ensure the proper testing of the elevator scales to their full weighing capacity.

DIFFERENCES WITH CANADA.

A communication was read from Mr. Frank J. Firth, vice president, suggesting that the board take action necessary to ensure the lake interests being properly considered in any settlement that may be made of the pending differences with Canada. It was thought that nothing could be done in this direction at present, but it was understood that the Lake Carriers' Association would watch closely the progress of negotiations for a settlement of the difficulties, and when those negotiations had arrived at the proper stage, take such action as seemed necessary to protect the interests of American vessels navigating the lakes and connecting rivers.

SECRETARY.

THE SYSTEM OF NIGHT SIGNALS.

ERIE, PA., September 11.

Editor of the Marine Record:

Of course there are conditions when any system of signals will be inoperative. Mine will work admirably under many circumstances and give information that no other scheme that I am aware of will do.

My experience has been large and varied, commencing when lights were not carried by any law of the sea, and only by the most cautious; a lamp on rare occasion was hung under the jibboom outside the cap of the bowsprit, when the binnacle light was of such a character that on stormy nights a boy was kept busy burning rope yarns to enable the helmsman to see the compass, and the slush lamp was the forecastle light; lucky if the salt horse gave off fat enough to meet the demand.

Compasses were crude things in my time, oscilating and rotating in such a manner as to render it impossible to say just how the ship headed. Chronometers, sextants and octants were novelties out of the reach of ordinary navigators; hand spike windlasses were used to heave up anchors with, patent blocks were not dreamed of, rope trusses and slings were in order, hemp rope was used for running rigging and the steering wheel was used as an auxiliary to the tiller in bad weather, and a ship that steered within four points was a dandy.

I went to sea as an apprentice and served my time trading between Dublin and Quebec carrying out passengers, and timber home; have followed the sea and lakes over forty years, serving in every capacity on board of merchant and naval vessels of all classes and sizes, I have been in command of a line of battle ship flying the flag of a rear admiral and as cook of a Mississippi flat boat carrying coal, so that I pride myself on having a fairly good idea of the wants of a sailor.

My idea of signaling is to have something that the officer on watch can instantly use; with a small hand rocket encased in tin, he can strike the end of it against any hard substance and by concussion cause it to ignite and in less time than it would require him to remove his mitten he can convey the intelligence of the approximate course he is steering

If some more cunning device can be suggested I will be happy, and if mine affords some anxious mariner on a stormy night the slightest relief the pay is ample reward for the study given to the subject. Fraternally yours,

ABRAHAM J. LOUCH.

ABOUT NIGHT-LIGHTS.

PITTSBURG, PA., Sept. 10.

To the Editor of the Marine Record.

Having lately had occasion to make a trip in one of our line boats I was dumbfounded at the apparent carelessness and neglect of some of the people whose vessels we passed during the hours of darkness, and if the publication of these few lines will tend to make men more cautious of their lives and property and the lives of others entrusted to their care, you are at liberty to insert this letter in the columns of your paper. Having my attention called to the undermentioned facts, I enquired from competent authority on board and found that this indifferent mode of navigating was the rule and not the exception among a certain class of vessels. During my cruise many tows were overtaken and passed, and when two or more vessels were in the tow a stern light was invariably hung out from each vessel for the one ahead to steer by, yet the last barge or schooner in the tow, in almost every case, omitted using this light, having the simple though criminal excuse, that there was nothing behind her; and yet if a vessel overtaking the tow was to collide with this last vessel, the last vessel of the tow might be held responsible for damages arising from the accident, including detention and other expenses, and rightly so too; at least such a ruling was formerly in accordance with the letter of the law, and I believe it to be so still; if not I am quite open to correction, and not having traveled for some time I may be considered hypercritical. Yours truly,

D. A. PATON.

STEAMERS AND RAFTS.

SAULT STE MARIE, September 3.

Special to the Marine Record.

A few days ago the steam barge Spartan with tow barge Sumartra coming up the river met a raft of logs. If the steambarge had waited five minutes they would not have had any trouble, but she was bound not to stop, she went through the raft, broke the raft up to considerable extent, and put the Sumartra ashore, it cost several hundred dollars to get her off, you can see what loss the captain caused his owners by not using the same courtesy that he would allow meeting another steamer. He also stands a good chance to have a law suit. The lawsuit we have had with steambarge "Green" was in our favor, we received judgement against the "Green" for $3,500 and costs, which is nearly two thousand dollars. The owners must suffer on account of their captains. Yours Truly,

JOHN C. SPEY.

We admit that vessel owners are responsible for the action of their captains, yet we wish to state that shipmasters have also a reputation to sustain, hence when the circumstance occurs that they must either be crowded ashore or run into a raft of timber, they prefer the latter course, if a raft towing is unmanageable it should carry signals to indicate its helplessness, while in transit, and in this case it might be argued that natural obstructions are quite sufficient for the navigator to contend against. [ED.]

ON another page we present a cut of the Hamilton life boat, recently invented and patented by Tobias Hamilton, of Martinsville, Ohio. The invention relates to that class of small boats which are carried by vessels as a means of escape in case of any accident arising which may render the abandonment of the vessel a necessity. The boat may be of any size to hold from one person to one hundred, or even more, and it is estimated that a boat of this style twenty feet in diameter could seat and carry 127 persons of an average weight of 140 pounds each, with water and provisions for several days; also that a boat of this size can be propelled by four men at the rate of eight miles per hour.

ALTHOUGH the Minnesota Iron Ore company have shipped about 228,000 tons of ore since the opening of navigation. They have still a large and constantly increasing quantity of ore at their Two Harbor yards and docks. It is estimated by the Duluth Herald that there is fully 40,000 tons of ore waiting for shipment at the present time, and if the proposed amount of 450,000 tons for this season is to come forward a brisk revival in freights must shortly be obtained, otherwise the mine owners will find themselves considerably behind their anticipated shipments this year.

The bar in Erie Harbor has about shut out navigation; the Alaska and the Susquehanna have both been fast on it lately.

The president has authorized General Poe to dredge out the St. Glair Flates canal, at the request of the Clevela nd Vessel-owners, Association.

FORE AND AFT.

A new steamer is to be built for Ward's Line considerably larger than any now on the line.

The Milwaukee seamen's union on Wednesday fixed wages at $2.50 per day, an advance of 50 cents.

The leaking barge Genesee Chief will take on a steampump and be taken from East Tawas to Bay City for repairs.

The largest cargo on a wooden vessel through the Sault was on the Robert L. Fryn last week. It was 2,303 gross tons.

The biggest grain cargo that has ever left Chicago went out Saturday on the steamer Helena. She carried 104.000 bushels.

The propeller Tiogo will complete her repairs at Buffalo in about ten days, and the schooner Sawyer in about the same time.

The propeller Roanoke tried it out with the Chicago breakwater Thursday night and had to go into drydock for her pains. No light on the pier.

The steambarge Cormorant, ore laden, is on her way down in tow of a tug, on account of a disabled wheel. The Eygptian will bring the Wall down.

Shipments by water from Saginaw River for week ending today are as follows: Lumber, 13,904,000; shingles, 2,880,000; lath, 550,000; staves, 78,000.

The propeller Stafford and consort take coal to the head of Lake Superior from Ohio ports and return to Chicago from Ashland with lumber at 2.50.

The Canadian steamer Algonquin got away from Chicago Wednesday after being detained a week, first by leaking boilers and then by broken steam steering gear.

If a man only thinks he has another match in his pocket he can light a cigar in a gale, but if he is dead sure he hasn't, the one he has lit will go out on him as sure as fate.

Oxalate of cerium, a recognized palliative for nausea, is said to be helpful in cases of seasickness, when taken in doses of ten to twenty grains every two or three hours,

Carter's wrecking outfit succeeded in taking off the boiler of the sunken barge Oriental. They expect to be able to pump out the coal when the weather moderates.

When a man isn't educated enough to swear he feels rather at a loss how to express himself on board ship when his soup suddenly distributes itself over his best travelling suit.

The schooner Charles Foster, light, is reported from Escanaba to be ashore on Fisherman's Shoal and three feet out. The tug Delta failed to release her, and the Leviathan has gone to her.

The Canadian Government has decided to collect the $400 fine against Murphy's tug Gladiator, imposed for wrecking on Canadian water. Her permit turns out to be a special one for last year.

The schooner Penokee damaged herself $1,000 by breaking away from tow of the Massachusetts near Port Huron, Saturday, and colliding with the Higgie. The latter was but slightly injured.

The report in a Chicago paper that the big propeller Helena was bringing down 104,000 bushels of corn does not agree at all with her bills, which give her 93,388 bushels. The Onoko is ahead yet.

The steambarge Transfer was libelled and detained at Detroit on suit by S. B. Grummond for damage to the schooner Boody by a collision on Lake Huron a few days ago. The amount claimed is $1,500.

The Canadian department of marine and fisheries has issued a notice warning mariners of the existence of a dangerous rock at the mouth, of French river, Georgian Bay, half a mile from Bustard lighthouse.

The steamer Rosedale, laden with grain from Fort William, ran on a boulder in Kingston harbor. After being lightered of 6,000 bushels of grain she floated off the rock. Around about it there is seventeen feet of water.

"Well Janet," asked a facetious husband whose wife had just discharged the hired girl, are you going bravely to breast the waves of the domestic sea of troubles? No," she said demurely, "I'm only going to stem the currants."

Forty thousand dollars is said to be the coat of covering the new Ploughkeepsie bridge with two coats of red paint. There are men in New York who would paint the whole of Poughkeepsie red with a single dollar, and still have the price of a bracer in the morning.

The much-litigated propeller Oneida has been sold to a syndicate of Bay City parties of which Captain James Davidson is a leading member. The suit of the Thames & Mersey Insurance company and Mrs. Lorenzo Dimick in connection remain as before.

The Chicago Tribune mourns over the fact that not a vessel of the great fleets being built on the lakes is owned or built there, but ventures no reason for the fact. Ony Messrs. Egan, Ellphicke, Owen, and one or two others have any comparatively new vessel property.

Schooner Otonabee, Captain James Martin, lumber laden, is ashore at Morpet pier. The crew are safe. The cargo consists of 210,000 feet of pine, consigned to Seane & Butler, Ridgetown, by Donogh & Oliver, Toronto, and is partly wrecked. It is insured.

The Milwaukee steamboat inspectors have suspended the license as master and pilot of John Sullivan of the tug A. W. Lawrence for violation of pilot rules 3, 6, and 8, in having failed to answer the passing signals given to him by the tug J. B. Merrill.

During August 1, 448 vessels passed through the Sault ste Marie canal, consisting of 983 steamers, 413 sail vessels and 52 ratts and unregistered crafts. The crafts had a registered capacity of 987, 282 tons, and carried 1,212,,893 tons of freight and 8,092 passengers. This is the largest month's business ever done by the canal.

[*Around the Lakes Continued from 1st Page.*]

PORT HURON.

Special to the Marine Record.

There is now a big fleet at the elevators, at P. B. Sanborns there is now five vessels and three more hourly expected.

The schooner Penokee in tow of the Monohansette parted her tow line, and ran into the schooner Higgie lying at the Y. T. R. R. elevator and carried away all her head-gear and stern, and damaged the Higgie about $500. The vessels are at Dunford & Alverons for repairs.

The White Star has completed her repairs, and left for Buffalo with wheat.

The barge Garret Smith arrived down, in tow of the barge Peter Chamberlain, waterlogged, she will take off her deck load and go into Dunford and Alversons.

The contract has been left for the building of the new drydock for Dunford & Alverson, it will be large enough to take in the largest vessels on the lakes. K.

The Mutual Transportation Co's steamship Cambria ran ashore early Wednesday morning on the Canada side, twelve miles above this place. Fortunately she struck clay bottom and probably sustained no injury. Captain Mooney immediately sent here for assistance and the tug Haight with a gang of men started at 9 o'clock. They jettisoned one hundred and fifty tons of ore and with the assistance of the Haight the Cambria was released. The dense smoke which overspreads Lake Huron renders navigation extremely perilous. Forest fires prevail all the way to Point aux Barques, and unless a heavy rain comes soon the risks to vessels will increase.

CHEBOYGAN.

Captain Grummond's tug Leviathan left here at 3 o'clock Sunday morning to release the ore-laden schooner Charles Foster, ashore on Fisherman's Shoal in the north passage of Lake Michigan. The condition of the vessel is not known, but she is liable to go to pieces from any high winds, as she is badly exposed.

PORT DALHOUSIE

Thg Magnus arrived early this morning and is lying here getting some repairs made. The steamer Mazeppa arrived last night and went on the drydock for sundry repairs. Messrs. Carter Bros. of Port Colburne, have had their steam pump at work all day pumping coal out of the wrecked schooner Oriental into their lighter, the schooner Bay Trader.

DULUTH.

Bischoff & Hanson, owners of the ferries Estelle and Hattie Lloyd, have recently purchased at a cost of $10,000 a fine ferry, which is now coming up from the lower lakes under charge of Mr. Hanson. It will at once be put on the route between West Superior and Duluth. It is elegantly fitted up for passengers and will also be able to carry three teams per trip. It is expected to arrive within a day or two. The other ferry boats will continue to run as heretofore.

ALPENA.

A raft of 2,000,000 feet, in tow of the tug Swain, broke up in a heavy southeaster last Tuesday night off Thunder Bay Island. The tug picked up over 1,000,000 feet and got into the bay. She is waiting favorable weather to recover the balance.

The schooner Magruder arrived here Monday morning with her fore and main booms and bowsprit carried away, fore and main sail torn, and stern badly split but not leaking. She collided with an unknown steamer in Saginaw Bay. The captain thinks the collision occured with the steamer Owego.

The schooner Sunrise ran ashore at Port Austin on Saturday afternoon and is out four feet forward. She is laden with barley for Buffalo. The tug Winslow and steambarge Mary Pringle are coming to her assistance. She will have to be lightered.

OTTAWA.

The customs degartment has decided to enforce a fine of $400 against the American steamer Gladiator, seized by Canadian customs authorities while towing in Canadian waters. The owners of the Gladiator contended that they had a permit to tow in Canadian waters. but investigation by the department showed that the permit was a special one issued to the Gladiator early in 1887 to tow a raft of logs which was broken up in the Gulf of St. Lawrence. The deparment then decided the steamer was clearly liable to forfeitnre.

SAULT STE MARIE.

The Canadian steamer Baltic, from Collingwood, bound for the Sault, got off her course during the gale Friday night and went on the rocks off Clapperton Island about midnight. The passengers and crew were rescued and brought to Little Current by the tug Reed. The Baltic is badly damaged.

ESCANABA.

The schooner Charles Foster was released Tuesday from Fisherman's shoal and towed to Manitowac by the Levithan, where she will be drydocked. The damage is apparently slight.

MACKINAW CITY.

The steambarge Cleveland and consort Tyson went aground on the White shoals Monday night. The Cleveland released herself and went to St. Ignace for assistance. Her other two consorts are anchored here.

Schooner Delaware grounded on Green island shoal early Wednesday afternoon. She is rolling badly The Delaware is owned by T. F Murphy of this city. She rates A2½, tons 519 and valved at $14.000.

BUFFALO.

The Mecosta arrived with her stern damaged by a blow from the Louisana in the St. Clair canal. The damage will amoant to about $1,000. Temporary repairs will be made here.

Forty-five hundred bushels of the Susan E. Peck's Duluth wheat was rejected by the inspector on the ground that it was stained by ore dust. Her owner says she has carried no ore since June.

John Nicholson, mate of the Badger State, was arrested for alleged assault on William McTigh, a seaman. He gave bail for his appearance two weeks hence.

The freight on the Sweetheart's lumber cargo has been settled, but no disposition made of claims for getting it from Tonawanda after the vessel waterlogged on Lake Superior. The Sweetheart was docked for calking and other repairs.

The schooner Cheney Ames, with stone from Portage, arrived all right. Captain Meyer has no idea how stories were started of her sinking on Lake Huron or Lake Erie.

The schooner S. H. Foster was short 157 bushels on 40,000 of wheat from Sandusky. Nearly all cargoes coming from that port are bardly short.

LAKE FREIGHTS.

Ore freights are still unsettled, but it can be safely said that $1.70 from Ashland, $1.50 from Marquette or $1.30 from Escanaba could be obtained if boats ready to accept these figures were on the market. From Ashland $1.70 is freely offered and another rise of 5 cents would not be surprising. Lake Michigan coal freights will probably go higher. Eighty-five cents could be obtained for tonnage to take coal to Chicago at the close of the market.

Ore charters: Propellers Roumania, Iron Duke and schooner Iron State Ashland to Ohio ports, $1.70; James Pickands, Marquette to Ohio ports, $1.50; Queen of the West, Escanaba to Ohio ports, $1.30. Coal charters: Propeller George T. Hope and schooner Nelson, Cleveland to Chicago, 80 cents; schooners Col. Cook, Cleveland to Escanaba, 60 cents; Hercules, Huron to Owen's sound, 60 cents; William Young, Cleveland to Detroit, 30 cents.

BAY CITY, MICH., September 12.—Three charters were made this evening at an advance of 25 cents per thousand on lumber from Bay City to Cleveland, the Burlington, Michigan and Clinton having been engaged at $1.75. This will increase the Buffalo rate to $2.

TOLEDO, O., September 12.—Chartered: Schooner Lyon, wheat to Buffalo, 2⅛ cents.

BUFFALO, N. Y., September 12.—Coal freights quiet, steady at 60 cents to Ashland; 75 cents to Chicago.

CHICAGO, ILL., September 12.—Demand for tonnage is good. Buffalo rates were held at 3¾ cents on wheat, 3½ cents on corn and 3⅛ cents on oats. Engagements were for 48,000 bushels of wheat, 366,000 bushels of corn and 55,000 bushels of oats.

DRIVING-GEAR FOR SHIPS' WINDLASSES.

The invention relates to improvements in ship's windlass; and consists, essentially, in the combination, with a rigidly secured driving head, of a worm wheel rim secured thereto. It is well known that the worm gearing of steam windlasses is subjected at times to very severe strains, the result sometimes being to fracture the gear and also produce excessive wear. In such event, in order to replace the broken gear with a new one, it has been necessary heretofore, where the gear as a whole is secured to the shaft intermediate of the two wild cats, to first roll out the windlass from its bearing and then to remove one of the wild cat driving heads in order to get at the worm gear. As the driving heads are forced upon the shaft, their removal therefrom is attended with great difficulty, thereby necessitating sending the shaft, &c., to a shop having facilities for such removal, thus increasing the cost for repairs and consuming a great deal of time, the vessel in the meantime being thereby unprovided with its means for hoisting.

The object of the present invention is to overcome the disadvantage just stated. To this end we rigidly secure a head to the windlass shaft intermediate of the wild cats, said head having its periphery turned to receive and support an annular rim carrying worm gear teeth, the rim being secured to the head by bolts. The wild cat is loosely mounted upon the windlass shaft, a driving head being rigidly secured upon the shaft adjacent thereto, the wild cat being adapted to be locked to the head by loose keys, as usual. In view of such construction, they make the inner diameter of the worm gear rim somewhat greater than the outer diameter of the driving head. By means of this arrangement it is obvious that the old worm gear may be readily removed from the windlass and a new one quickly substituted after the wild cat is first taken off. The latter may then be replaced and the windlass returned to its place with the shaft resting in the main bearings, the whole being ready for use. Practically, in making a windlass, they enter in a book kept for the purpose the diameters of the flange or rim of the main head which is to receive the gear ring, and also the number and dimensions of the securing bolts. Now, in case a windlass thus constructed subsequently requires a new worm gear the order therefore may be sent by mail or even telegraphed to the works, the order being filled from the data referred to, the delay, expense, and annoyance incident to reshipping the windlass itself to the works being thereby avoided.

This patent has been assigned to the American Ship Windlass company and will be used on the Providence windlasses.

WHAT SUGGESTED THE INSPECTION BOARD.

Supervising inspector of the United States, General James A. Dumont, was at Chicago during the past week. During this visit note has been made by the Chicago papers of his connection with a disaster on the Hudson River, many years ago, in which 150 lives were lost. The Empire, a cumbersome sidewheeler, in the passenger carrying trade between Troy and New York city, was bound north for the former port. When just below Newburg the steamer and the sloop Noah Brown crashed into each other. The Empire immediately began to fill. She was headed for the flats, sinking as she reached them, up to her upper decks, the occupants of the cabins on the lower deck being imprisoned in their apartments and drowning.

"If the Empire had not seen us," said the general, "if by some combination of circumstances our lights had gone out, so as to hide us from the view of the man at the Empire's wheel, the Brown would have passed under the Empire's stern an eighth of a mile. But they did see us, and tried to cross our bow—the same error which has cost more loss of life than any other two exigencies met in navigation. I was at the Noah's wheel, and at the coroner's inquest the officers of the sloop were exonerated from all blame. This was one of the horrors which provoked the adoption of more stringent inspection laws. The burning of the Henry Clay and the Empire disaster occurred within a short space of time. It aroused public sentiment and public sentiment created the inspection board."

NOVEL PIRACY.

A somewhat novel attempt at piracy was made by two thieves shortly after 12 o'clock yesterday morning. The tugboat Union, of the Vessel Owners' Towing company, was tied to her dock at the foot of Fulton street, and Fireman Henry Thompson, who was asleep in a bunk below, was the only man aboard, when two thieves boarded the vessel. One of them, alleged to be a fellow known along the docks as Denny Sullivan jumped into the pilot-house, while his companion sprang at the throttle in the engine-room There was no interchange of signals through the medium of the gong and jingle. Before stepping aboard the men had cast off the lines, and when Denny's companion got down into the engine room he pulled the lever full over and the tug shot forward. Denny was evidently a novice at the wheel. He pulled her hard aport when he should have thrown the wheel adstarboard. The tug shot out into the middle of the river, then plunged for the east bank, cavorted back into mid stream and made a mad rush for the west bank In this fashion the tug continued in its career until, with a crash and a creaking of timbers, it bounded broadside into the canalboat Joliet, snapping asunder heavy timbers on the canaller's starboard quarter like so many reeds Evidently fearful of having sent the vessel to the bottom, the pirates put in for the dock, jumped ashore and ran away. Fireman Thompson, rudely awakened from his slumbers by the collision, got on deck, and piloted the vessel back to her moorings and turned in to finish his interupted nap. Captain Higgie is to prosecute the parties, if they can be caught. He is of the belief that the pirates intended to run to a foreign port with the boat.—*Chicago Inter Ocean.*

A German paper, in an article on the present method of rope manufacture from hemp, and the deterioration of the different qualities and probable strength simply from the appearance, lays down the following rules: A good hemp rope is hard, but pliant, yellowish or greenish gray in color, with a certain silvery or pearly lustre. A dark or blackish color indicates that the hemp has suffered from fermentation in the process of curing, and brown spots show that the rope was spun while fibres were damp, and is, consequently weak and soft in those places. Again, sometimes a rope is made with inferior hemp on the inside, covered with yarn of good material, a fraud, however, which may be detected by dissecting a portion of the rope, or, in practiced hands by its behavior in use; other inferior ropes are made from short fibres, or with strands of unequal length or unevenly spun, the ropes in the first case appearing wholly, on account of the number of ends of fibres projecting, and, in the latter case, the irregularity of manufacture is evident on inspection by any good judge.

Several million feet of saw logs belonging to McEwan Bros. and W. B. Rouse of Bay City were libeled while in transit through Sault river. Other rafts to follow will be libeled. The claim against them aggregates about $9,000.

THE CLOSE OF LAKE ERIE'S EXCURSION BUSINESS.

Last Saturday terminated the excursion business on Lake Erie, and we may congratulate the owners, directors, and all concerned, in having a most successful season, both as regards the fine, light weather we have experienced during the summer months, and also on the grounds of financial benefits derived from the brisk business carried on. The fact goes without saying that thousands of the citizens of Cleveland and the surrounding districts have heartily enjoyed the many cheap and pleasant lake rides, and it is with regret we note that the popular and accomodating steamboa Pearl is about to depart from here to Detroit, her usua winter quarters. Although the closing of the excursion season seems to us to be rather premature, especially in the face of the splendid settled weather we are still having, we may console ourselves with the fact that the Detroit and Cleveland Steam Navigation Co. still have their fine boats running regularly, and the prompt accommodation, and unvarying courtesy of this line will till furnssh the means of an enjoyable sail on Lake Erie. While the weekly appearance of Captain Grummond's line boat Atlantic will be cheerfullyhailedby a great number of travelers for many weeks to come as all who have had occasion to travel by this well known line speak in excellent terms of the management.

A WASHINGTON despatch revives the old story that the St. Clair Flats canal is partly in Canadian territory and it is reported that the Dominion Government is about to make a demand to have the international boundary in the St. Clair Delta defined and that its ministers will formally protest against the right of President Cleveland to restrict or prohibit navigation in St. Clair Flats Canal because a portion of that public work was cut through territory belonging to the Dominion.

THE steambarge J. Emory Owen, built by the Detroit Drydock Co., bears the proud distinction of having introduced a most efficient substitute for water as a combatant in case of fire at sea. Situated alongside of her engines there is a series of valves connected with a complete system of steam piping. This piping runs through the entire hull and connects with the various holds, coal bunkers, cabins and fire holds. If, say, in mid lake, a fire was discovered in the forward hold, word comes to the engine room and the engineer without leaving the place, can extinguish the blaze. He opens the valve leading to the forward hold, and instantly the compartment it filled with seething steam. The acriform fluid extinguisher is universally acknowledged as much more potent than water, as it fills every crevice and crack in ceiling planks as well a floorings.

THE war department has referred Senator Cullom's resolution, relative to the St. Clair Flats canal to Colonel Poe, the engineer officer in charge of the work, at Detroit, for report. Senator Cullom said he had received a letter from a gentleman in Michigan, stating that no more than ten feet of the St. Claire Flats canal was within our boundary. If this were so, he said, the Canadians could, by sinking a few coal barges on their side of the line, make the canal entirely unnavigable. No investigation of the diplomatic side of the controversy has yet been begun at the state department. The diplomatic view of this matter should be made in the light of common sense, and probably it will be.

ONE might think that a layer of rust on a piece of iron would act as a kind of circatrice to protect the metal underneath Nothing of the kind however. Professor Crum Brown has been explaining rust to the English Iron and Steel Institute It is only when the water vapour in the atmosphere condenses upon the surface of the iron that the rusting begins; but, once begun, the rus formed favours the further condensation of the water vapour. 'A piece of iron, therefore, which has begun to rust will continue rusting in an atmosphere not saturated with water vapour, an atmosphere in which a piece of clean iron will no rust.

The Newcastle Chronicle says: We have sent to us the balance sheet of one of what we called the "self insurance" clubs, a brief summary of the workings of which may be of interest to many readers. It insures a fixed amount per vessel of the fleet of the owners, and £5 per cent. per annum for total loss is charged. In addition, 5s. per gross register ton for particular average is charged. In the year recently ended, the receipts were close upon £7,000. There was one vessel lost, one or two stranding cases occured; but after all charges were met, there was returned out of the contributions £2,800 to the various vessels insured. Had there been no total loss, the amount returned would have been much larger. The chief cost in the year appears to be in the stranding cases.

Chicago had received 582,437 tons of hard coal by lake up to August 20, against 348,048 tons for the same time last year. The rail receipts were 299,803 tons against 224,559 last year. The rail shipments out of the city were 183,838 tons. A recent careful estimate places the amount at Duluth and Superior at 195,000 tons, at Washburn 20,000 tons and at Ashland 10,000 tons.

Thomas Thurston,
SHIP CARPENTER AND JOINER
Builder of all kinds of BOATS, YAWLS, ROW, BOATS and OARS. SAIL and STEAM YACHTS.
Shop, 385 Atwater Street, DETROIT, MICH

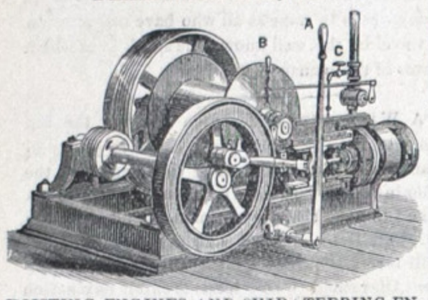
First-class Merchant Tailoring.

Done in the nobbiest style, according to monthly new fashion plates; made by none but first-class mechanics and none delivered unless to the entire taste of the Customer, can be procured by *Jos. L. Kohn*, practical tailor and cutter at the tailoring department of *Kohn & Co.*, 213 Detroit street, second door from corner Pearl known as Boston Dry Goods Store, Cleveland, O.

In the rear of the above Store a fine stock of the latest patterns of *Cassimeres*, Cloths, *Over Goatings, Silk Vestings*, can be found and owing to the fact, that this young genius of a garment cutter Mr. Jos. L. Kohn does his own cutting, (which alone saves $30 per week) and has the appartment in the above Store free of any expense it enables him to Save the Customers from $6 to $10 on every Suit of Clothes. Convince yourself by calling at 213 Detroit street, second door from corner Pearl known as Boston Dry Goods Store of KOHN & CO., Cleveland, O.

WILLIAMSON BROS.

COR. RICHMOND AND YORK STS.,
PHILADELPHIA, PA.



HOISTING ENGINES AND SHIP STEERING ENGINES; with either Frictional, Spur or Worm Gear of various patterns to suit all purposes.

Grummond's Mackinac Line

STM'R ATLANTIC,
Captain J. R. Jones.
LEAVES CLEVELAND EVERY FRIDAY AT 8 P. M., CITY TIME,
For Mackinaw, St. Ignace, Cheboygan, Alpena, Oscoda, and way ports. For passage or freight apply to ANDERSON & CO., Agents, Dock ft. of Superior-st.
S. B. GRUMMOND, Owner.

SAMUEL McCUTCHEON,

STEAMBOAT & ENGINEERS' SUPPLIES
Copper, Brass and Sheet Iron Manufactory.
IRON PIPE AND FITTINGS.
Agent for Davidson's Steam Pumps, Amazon Boiler Compound, and Orme Patent Safety and Relief Valve.
No. 18 Ohio Street,
Buffalo, N. Y.

J. C. COSS.

Sail Maker and Rigger,
20 and 22 Woodward Av.,
DETROIT - - MICH
LARGE STORAGE ACCOMMODATION FOR VESSEL OUTFITS.

Scott's New Coast Pilot

Second Edition, Revised and Enlarged,
With new Maps and Illustrations corrected to the opening of Navigation in 1888,
IS SOLD BY
SHIP CHANDLERS
AND BY THE PUBLISHER.
GEORGE SCOTT,
AT 162 LARNED ST., E. DETROIT, MICH.

M. M. GLEKLER,
MANUFACTURER & DEALER IN

Cigars
AND
Tobacco.
156 River-st., Cleveland, Ohio.
No one should leave port without a box of M. M. Glekler's marinecigars.

FOR SALE.
THE HANDSOME NEW FORE AND AFT SCHOONER W. C. Kimball, built at Manitowoc last winter, outfit all new and complete, 65 feet over all, 17 feet 4 inches beam, 4 feet 9 inches hold. Tonnage 31, 49 Apply to A. D. JOHNSTON, Manitowoc, Wis.

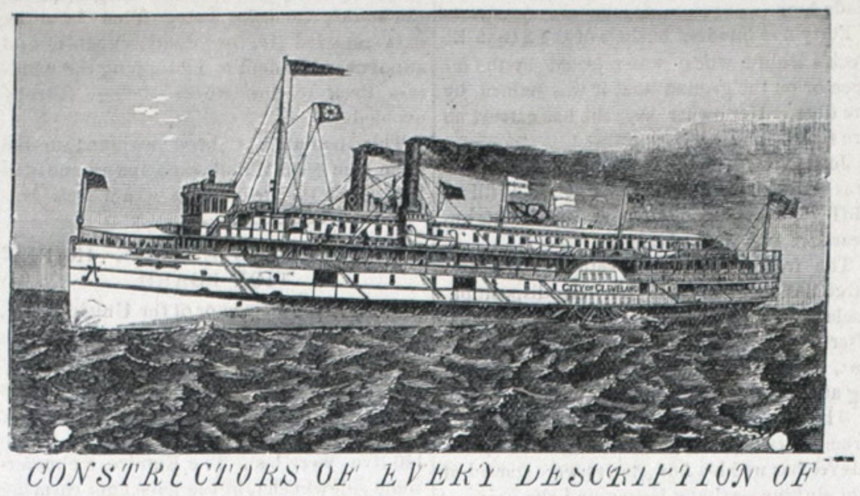
YACHT FOR SALE.
SLOOP YACHT NORDEN, 45 feet water line, 13½ feet beam, in first-class sailing condition, for want of time to run, is offered for sale at a bargain. Address F. W. FINCHER, Pentwater, Mich.

HARBOR TUG FOR SALE.
THE TUG MYRTLE, of Sandusky, Ohio, for sale cheap. Is in first-class condition. For particulars write to FRED GROCH, Sandusky, O.

FOR SALE.
BARGE COL. BRACKET—She carries 260M feet of lumber, 420 tons of coal. Had $900 worth of repairs last season. Fit out good. Price $1,600. Mention this paper. ED. J. KENDALL, Port Huron.

FOR SALE.
A steam barge 125 thousand capacity; will carry 150 passengers, only one year old; a good twelve mile boat in the best possible condition; will be sold reasonable and on easy terms. For further particulars inquire of MARINE RECORD, Cleveland, Ohio.

DETROIT DRY DOCK CO.,



CONSTRUCTORS OF EVERY DESCRIPTION OF
Steel, Iron, Composite and Wooden Ships.
IRON SHIP BUILDING WORKS AT WYANDOTTE, MICH
Dry Docks and Repair Yard, ft. of Orleans-st., Detroit, Mich.

S. B. GRUMMOND,

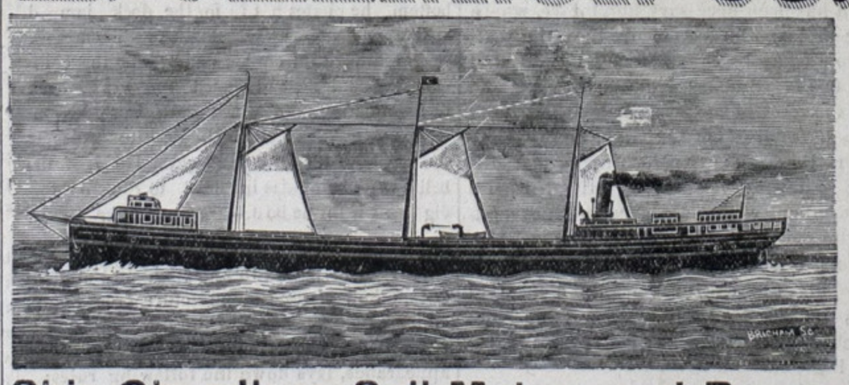
OWNER OF FIRST-CLASS
Tugs for Wrecking, Raft Towing, Etc.
STEAM PUMPS, ROTARY AND WORTHINGTON.
Improved Horizontal Straight Base Hydraulic Jacks.
Sub-marine Divers, Hawsers, Lighters, Etc.
WAREHOUSE AND OFFICE ON DOCK, FOOT OF FIRST ST.,
OWNER OF TUGS 'Winslow,' 'Leviathan,' 'M. Swain,' 'Champion,' 'Wm. A. Moore,' and 'Oswego.' **Detroit, Mich.**
Also, Steam Barge MARY PRINGLE, with Steam Hoister and Wreaking Outfit on Board.
OFFICE OPEN DAY AND NIGHT. SATISFACTION GUARANTEED.
BRANCH OFFICES at PORT HURON & CHEBOYGAN, MICH
WRECKING TUG
LEVIATHAN, CAPT. M. SWAIN, STATIONED AT CHEBOYGAN
With plenty of Wrecking Material on board and in Warehouse.

A PUZZLE.
Which Man is the Tallest?
If you measure carefully the figures in this cut you will find that the man who appears the shortest is in reality the tallest. If you will coal your boats at my dock, adjoining S. F. Hodge Iron Works, you will get better dispatch and better COAL than at any other place in the city.

O. W. SHIPMAN,

OFFICE:
Corner Griswold and Larned Sts

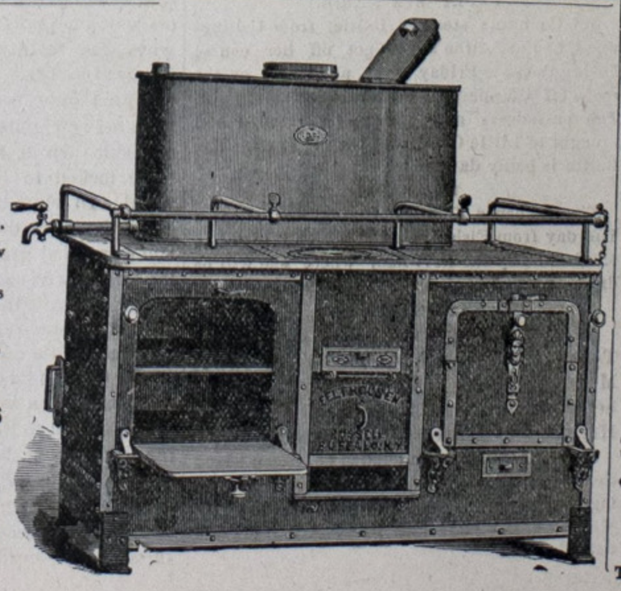
H. CHANNON CO.,



Ship Chandlers, Sail Makers and Riggers.
STEAM-BOAT SUPPLIES.
22 to 26 Market-St. near Randolph-St., Chicago.

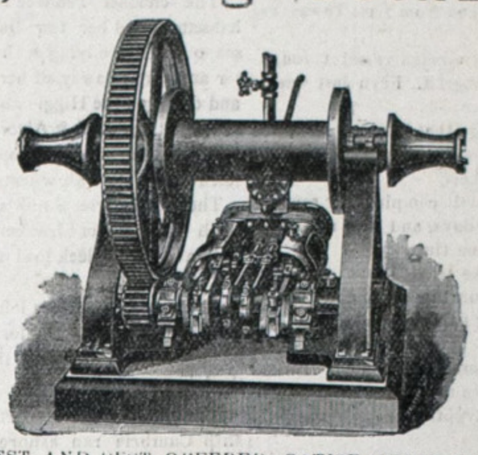
SIGNAL LAMPS
For Steamers and Sailing Vessels.
PATENT FLUTED LENS AND PERFECT COLORS.

GET THE BEST AND AVOID COLLISIONS.
These Lamps give a more brillant light than any Signal Lamp now in use.
They have been adopted by the principal Ocean and Lake Steamers
Over Ten Thousand Now in Use.
WE ALSO MANUFACTURE THE CELEBRATED
French Wrought Iron Ranges and Broilers of all Sizes for Steamers and Hotels.
Steamboat Copper, Tin, and Sheet Iron Workers.
FELTHOUSEN & RUSSELL,
139 & 141 MAIN ST., BUFFALO, N. Y.



EAGLE IRON WORKS,

MANUFACTURERS OF
Duplex, Hoisting & Deck Engines
Specially adapted for Boat Hoisting Sail, Hoisting Anchor, Pulling in Tow Line etc., etc.



Pumps with ten inch Barrels Connected to Gypsy Spools.
THE SIMPLEST AND BEST OFFERED—SATISFACTION GUARANTEED.
SUBMERGED FLUE BOILERS.
Engines, Boilers and Pumps on Hand for Prompt Shipment.
CIRCULARS AND PRICES ON APPLICATION.
Woodbridge, Fifth and Congress-sts, Detroit, Mich.

J. E. SIMPSON & CO.,

GENERAL CONTRACTORS.
AND BUILDERS OF
SIMPSON'S PATENT IMPROVED TIMBER DRY DOCK,
NO. 35 BROADWAY, NEW YORK CITY.

H. B. & G. B. BURGER,

Ship-builders and Contractors.
MANITOWOC DRY DOCK.
Dry Dock will admit Vessels of 1100 tons drawing 12 feet. Have also a set of Boxes in connection with the Ship yard capable of lifting Vessels of 350 tons. A large stock of SPARS CONSTANTLY ON HAND.
VESSELS DOCKED AND REPAIRED ON REASONABLE TERMS.
MANITOWOC, WIS.

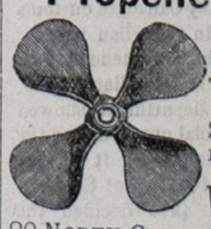
HULL'S RUBBER STORE.

Goodsel's Rubber Back Flax Packing, Steam Packing, Valves Gaskets, etc. Rubber Clothing Boots and Shoes.
PATENTED OCT. 27, 1885.
SPECIAL GRADES OF WATER AND STEAM HOSE FOR MARINE USE.
E. W. HULL, 237 Superior st., CLEVELAND, O. Send for Price List.

DETROIT BOAT WORKS.
SOLE MANUFACTURERS OF
Clark's Patent Metallic Life Rafts.

HIGHLY INDORSED BY THE BOARD OF SUPERVISING INSPECTORS.
Yawl Boats in stock 14, 16, 18, 20 and 22 feet long.
16, 18, 20 and 22 feet long.
Life Boats in stock
Steam and Hand Steering Wheels to Order.
Shops ft. of ORLEANS ST., DETROIT MICH.

Propeller Wheels.



FOR BARGES, TUGS, CANAL BOATS AND YACHTS
Two, Three or Four Blades for SPEED OR TOWING
From 12 Inches to 14 feet in Diameter
VULCAN IRON WORKS
80 NORTH CLINTON ST., CHICAGO, ILL.

J. W. GROVER & SON,
SHIP CHANDLERS,
SAIL MAKERS AND RIGGERS.
IMPORTERS AND WHOLESALE DEALERS IN
Wire Rope, Manilla, and Tarred Cordage, Canvas, Blocks, Oakum, Tar, Pitch, Oars, Anchors, Chains, etc.
116 & 119 RIVER ST., & 134 & 135 DOCK
CLEVELAND, OHIO.

Western Supply Agency

J. E. WILLIAMS, Manager,
—MANUFACTURERS' AGENTS FOR—
Pure Lard Oils,
Lubricating Oils,
Cotton Waste & Pure Natural W. Virginia Oils
—SOLE AGENTS FOR—
ROCKY MOUNTAIN GREASE CUPS AND RELIABLE CRANK PIN GREASE.
STEAMBOAT OILS A SPECIALTY
OUR CLIMAX CYLINDER OILS IS A FAVORITE WITH MARINE ENGINEERS.
129 RIVER STREET,
Telephone No. 137 CLEVELAND, O

The Only Shirt Factory in the City

Where all kinds of *Flannel* and *Cotton Shirts*, from the cheapest 50c to the finest Custom made fancy shirt ☞*are made to order*☜ and none but our ☞own home made☜ bearing our Trade Mark, can be found constantly in stock ready made, is the Boston Dry Goods Store of Kohn & Co., 213 Detroit street, second door from corner Pearl, Cleveland, O. All our Shirts 54 inch wide, 40 inch long and extra well sewed. We also announce, that we are the only manufacturer, who can procure the genuine U. S. Navy Flannel, of which we make *double* and *single breasted Sailor Shirts*☜ non-shrinkable, fancy pleated *Cloth Shirts* made in the latest styles, Canadian *Flannel Shirts*, *water proof Shirts* and more especially Scarlet Medicated *Flannel Under Shirts* and *Drawers*. ☞Call also for our Custom made *Jean Pants*, *Overalls*, *Jumpers*, etc., or leave your measure for the same.

Don't forget KOHN & CO., 213 Detroit street, second door from corner Pearl, Cleveland, O.

C. J. STARKEY,

Grocery & Provision Store.

Special Attention Given to Vessel Supplies.

FAIRPORT, O.

A. S. DeVries,

SHIP AND ORNAMENTAL PAINTER

22 South Water street, Cleveland, O.

Established in 1871. Telephone 210.

Signs, Steering Balls, Liberty Caps, Ornamental Work a Specialty in Cabins.

A. J. MORSE & SON.

CONGRESS ST. BOSTON.

GEORGE SAAL'S SON.

Copper-smithing of all Kinds.

VESSEL WORK A SPECIALTY.

403 and 405 Detroit-st., corner Duane-st.. Telephone 1638. CLEVELAND, O.

River Machine Co.,

[Successor to G. R. GALE,]

171 River St., Cleveland, Ohio,

Are prepared to Manufacture and do General Repairing on Marine Engines and all other Machine Work.

We have also a full line of pulleys and shafting and are prepared to do all kinds of Stone quarry Work.

TEARE, WIGHT & CO.

WARD AND JACKSON,

Shipsmith.

All Kind of Forgings, Bolts and Truss Rods for Building.

49 Main-st Cleveland

GEORGE E. HALLADAY.

Attorney and Proctor in Admiralty.

Marine Business Promptly Attended To.

OFFICE 21 BUHL BLOCK, DETROIT, MICHIGAN.

BEESON'S SAILOR'S HAND BOOK,

And Synopsis of Marine Laws. Every vessel man wants one. For sale by marine clerk at all custom houses. Price 50c. See it.

Lake Shore & Michigan Southern.

Commencing Monday July 13, 1888. The time given in the figures below is the new standard (Ninetieth meridian) time, which is thirty-three minutes slower than Cleveland time proper.

Eastward.	Arrive	Depart.
No 4. Fast Limited Express	*2 55 A M	*2 55 A M
No. 6 N. Y. & Boston Ex	*1 35 A M	*1 40 A M
No 8, N. Y. B & A Express	*8 25 A M	*8 50 A M
No 26, Elyria Accommodation	†7 45 A M	.....
No 10, Toledo Ac'm via Sandusky	†11 05 A M	.....
No 10, Toledo Accom via Norwark	†11 05 A M	.....
No. 24, Buffalo Accommodation	.....	† 7 00 A M
No. 10, New York & Boston, "Flyer"	.....	*11 50 A M
No 12, N Y & B Fast Express	*2 35 P M	3* 45 P M
No 2, Night Ex via Norwalk	9 40 P M	†10 00 P M
No 22, Night Ex via Sandusky	†9 40 P M	.....
No 26, Conneaut Accommodation	†4 25 P M	.....

Westward.	Arrive.	Depart.
No 1, Fast Limited Express	*12 15 A M	*12 15 A M
No. 23, Cleveland Express	*2 15 A M	
No 3, Chicago Express via "	§5 30 A M	5 45 A M
No 25, Mich Accom Norwalk	.....	†5 45 A M
No 21, Toledo Ex via Norwalk	†12 50 P M	†3 20 P M
No 5, St Louis Ex via Sandusky	*10 50 A M	*10 55 A M
No 9, Chi Pac Ex via Norwalk	*6 55 P M	*7 15 P M
No 31, Elyria ac to Elyria only	.....	†4 30 P M
No 27, Conneaut Accommodation	†8 10 A M	.....

Sunday train for Nottingham—Depart 9:20 a. m. and 1:00 p. m.; returning, arrive at 9:20 a. m. and 4:45 p. m.

Reference marks—* Daily, † daily, except Sunday, § daily, except Monday.

A local Cleveland and New York sleeper, also sleeper for Boston, and dining car daily on No. 10, leaving Cleveland at 11 50 A M.; arrive Grand Central depot, New York, 7.30 a. m.

For full information as to trains and connections apply at the Union ticket office, corner Bank and Superiors reets, under Mercantile Bank.

M. E. GAUL, City Passenger Agent.

A. J. SMITH, Gen'l Pass. Agt., Lake Shore Block.

SAMUEL F. HODGE & CO.,

MANUFACTURERS OF

MARINE,

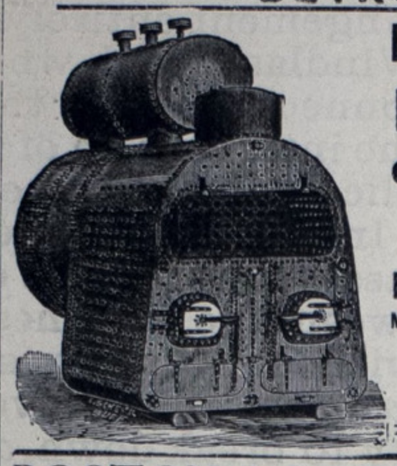
Stationary & Portable Engines,

MINING MACHINERY AND

PROPELLER WHEELS,

Riverside Iron Works, 314 to 326 Atwater Street,

DETROIT, MICH.



EAGLE BOILER WORKS,

M. RITER, Prop'r,

Cor. Indiana & Mary St.,

BUFFALO, N. Y.

MANUFACTURER OF

High and Low Pressure

Marine, Stationary, Portable, Locomotive and Upright Boilers; also, Salt Pans, Smoke Pipes and Heavy and Light Plate Iron Work of all Descriptions.

REPAIRS PROMPTLY ATTENDED TO

BOSTON & LOCKPORT BLOCK CO.,

SUCCESSORS TO FAGNAN & LOUD BLOCK CO. and PENFIELD BLOCK CO.

BOSTON, MASS., and LOCKPORT, N W YORK.,

The Largest and Most Reliable Manufacturers in the United States of

TACKLE BLOCKS.

Their Specialties are: Self Lubricating Metaline Blocks: Self-locking Link Snatch Blocks: Self-adjustable Five Roll Roller Bush Blocks; Loud's Patent Non-chokable Diaphragm Pumps will pump Sand, Gravel, etc., without injury to the Pump, having no plunger. Easiest Working Pump in the Market

OUTFITS FOR VESSELS A SPECIALTY.

We make the most durable grade of Blocks to be obtained in the market Call for our SELF ADJUSTABLE FIVE ROLL ROLLER BUSHED STAR BRAND BLOCKS AND DO AWAY WITH REPAIRS.

Money Saved, Money Gained, Money Well Spent

BY BUYING GOODS DIRECT FROM MANUFACTURERS AT JOBBING PRICES

W. B. RUDOLF & CO.,

SOLE MANUFACTURERS OF

MANUFACTURERS AND DEALERS IN FINE CYLINDER, ENGINE, LARD, BLACK OILS, WATER-PROOF GREASE PACKING & WIPES RAILROAD, STEAM BOAT AND ENGINEERS' SUPPLIES

WE STAND READY TO HAVE OUR GOODS TESTED AGAINST ALL OTHERS, AND WILL CHEERFULLY SUPPLY SAMPLE CAN OR BARREL, NOT TO BE PAID FOR UNLESS SATISFACTORY AT THE END OF THE TRIAL; TO BE PAID FOR AT REGULAR RATES WHEN THE GOODS ARE PRONOUNCED SATISFACTORY.

Yearly Contracts a Specialty.

29 South Clinton-st., Chicago, Ill

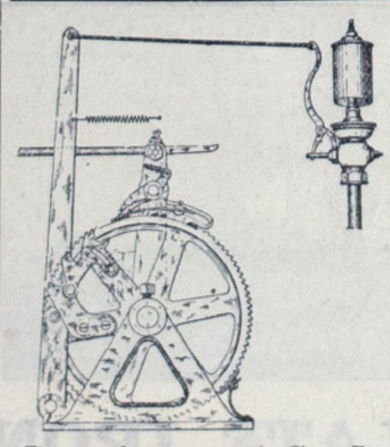
ARTHUR & BOYLAN,

Steamboats, Tugs, etc., Coaled Day and Night.

DEALERS IN LACKAWANNA ANTHRACITE COAL.

Woks: Ft. West River St., Whisky Island, C. P. R'y. Slip, Government Pier

OFFICE 130 RIVER-ST., CLEVELAND, OHIO.



Chase Fog Whistle Machine

This machine has been placed on the following steamboats during the past year: SPOKANE, WALLULA, KASOTA, CHARLEMAGNE TOWER, JR, YAKIMA, MISSOULA, SITKA, FAYETTE BROWN, R. J. HACKETT, FOREST CITY, SPARTA, HAVANA, VIENNA, OSCAR TOWNSEND, CITY OF CLEVELAND, HENRY CHISHOLM, SUPERIOR, E. B. HALE, M. B. GROVER, J. S FAY, R. P. CANNEY, SMITH MOORE, CHARLES J SHEFFIELD, IRA H. OWEN, CAMBRIA, CORSICA, J. H. OUTHWAITE, SAMUEL MATHER, R. R. RHODES, COLUMBIA, AURORA, OHIO, WM. EDWARDS, S. E. SHELDON, AUSTRALASIA, RALEIGH, BULGARIA, ROUMANIA, J. F. EDDY, HIAWATHA, THOS. ADAMS, A. P. WRIGHT, GLADSTONE, E. P. WILBUR, SOO CITY, E. M. PECK, ROBERT L. FREYER AND NORTHERN LIGHT,

To the President and Board of Supervising Inspectors of Steam Vessels:

Your committee to which was referred the 'Ghase Fog Whistle Machine" beg leave to report: "That we have carefully examined the same and find that it blows at regular intervals, being worked by the engine, thereby insuring regular and continuous blasts for any length of time that may be required and would recommend it or similar device to owners of steam vessels as an additional safeguard to navigation.

H. S. LUBBOCK,
GEO. H. STARBUCK, } Committee.
W. D. ROBINSON,

The manufacturers are the Chase Fog Whistle Machine Co., corner of Elm and Spruce streets, Cleveland, O.

Forest City CIGAR STORE

THOMAS LIGGET, Prop'r.

MAMTFACTURER AND JOBBER OF

CIGARS AND TOBACCOS.

259 PEARL STREET

CRESCENT MANUFACTURING COMPANY.

SOLE MANUFACTURERS OF

THE CYCLONE STEAM FLUE CLEANER,
THE CRESCENT STEEL TUBE SCRAPER.
THE CRESCENT TUBE EXPANDER,
THE CRESCENT COMPRESSION GREASE CUP,
THE CRESCENT HACK SAW,
THE CRESCENT LUBRICATING COMPOUND.
THE CRESCENT BOILER COMPOUND.
SUPPLY TRADE SOLICITED.

CRESCENT MANUF'G Co, 315 Michigan St, Cleveland, Ohio.

TOLEDO, OHIO. MONTPELIER, OHIO. } OAR MILLS. NEPTUNE ANCHOR WORKS

DEGRAUW, AYMAR & CO.,

MANUFACTURERS AND IMPORTERS OF

CORDAGE, OAKUM, WIRE ROPE,
CHAINS, ANCHORS, OARS, BLOCKS
COTTON AND FLAX DUCKS, FLAGS
BUNTINGS, RUSSIA BOLT ROPE,

MARINE HARDWARE AND SHIP-CHANDLERS' GOODS GENERALLY.

NOS. 34 AND 35 SOUTH STREET, NEW YORK.

TESTED CHAINS.

Bradlee & Co., Empire Chain Works

BEACH AND OTIS STS., Philadelphia.

Ship's Cables and Marine Railway Chains.

Chains for Foundry Cranes and Slings.

"D. B. C." Special Crane Chains.

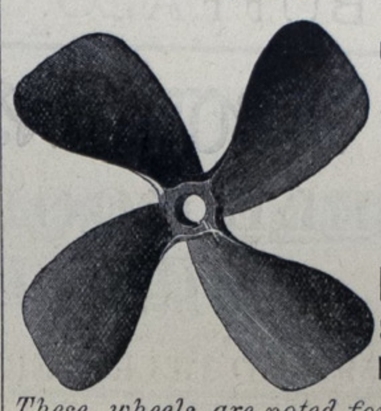
Steel and Iron Dredging, Slope and Mining Chains.

H. G. TROUT,

KING IRON WORKS,

BUFFALO, N. Y.,

MANUFACTURER OF



Triple Expansion Marine Engines,
Three Cylinder and Fore and Aft and Steeple Compound Marine Engines,
High and Low Pressure Engines
SECTIONAL PROPELLER WHEELS,
PROPELLER, TUG & YACHT WHEELS

These wheels are noted for their extra speed and towing power or aproportionate saving of coal.

PRICES QUOTED ON APPLICATION.

WILLARD & FILLEY,

[SUCCESSORS TO R. L. WILLARD]

SHIP AND ORNAMENTAL PAINTING.

DEALERS IN

LEAD, OIL, MIXED PAINTS, GLASS, PUTTY, ETC.

All Kinds of Steamboat and Vessel Work a Specialty.

Finished Liberty Caps, and Gilt Balls for Mast Heads and Flag Staffs Always on Hand.

57 Main Sreet, cor. Elm, Cleveland, Ohio.

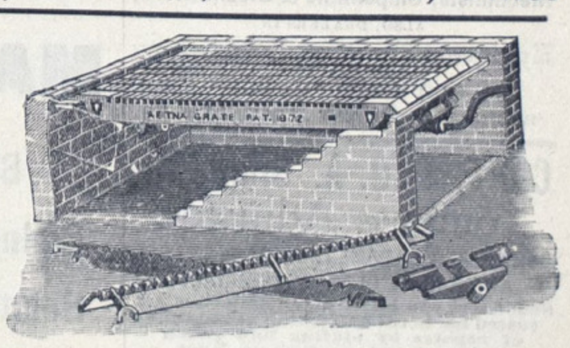
THE ÆTNA GRATE.

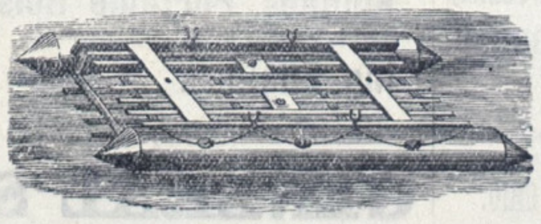
G. C. BARNES, Agt.

This Improved Shaking Grate Especially Adapted to Burning Slack.

Glob Iron Works, manufac's.,

Office and Foundry, corner of Elm and Spruce-sts., CLEVELAND, O.





THOS. DREIN & SON

BUILDERS OF

METALLIC LIFE BOATS

and LIFE RAFTS of all classes Government and Pleasure Boats of Wood. Block Cork Life Preservers. Sole manufacturer of Capt. JONATHAN CONE'S celebrated

Patent Life Rafts

cor Tatnal and Railroad Wilmington, De

MONTAGUE IRON WORKS,

Montague, Mich.,

MANUFACTURERS OF

MARINE AND STATIONARY ENGINES

AND BOILERS,

Of Every Style and Size,

PROPELLER WHEELS and Heavy Castings

A Specialty. Send for Circular and Prices

HOWARD H. BAKER & CO.

Ship Chandlers & Sail Makers

WHOLESALE AND RETAIL DEALERS IN

Cordage, Wire Rope, Blocks, Canvas, Anchors, Chains, Paints, Oils, Naval Stores.

Cylinder, Lard, Signal and Lubricating Oils a Specialty.

AGENTS FOR THE

American Ship Windlass Company for Lakes Erie and Ontario.

Importers of Nautical Instruments of Every Description.

18, 20, 22, 24, & 26 Terrace.

BRANCH STORE foot of Washington street (formerly D. S. Austin & Co.)

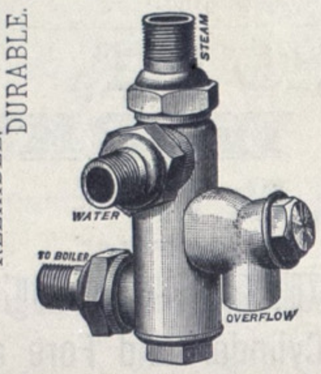
Buffalo, N. Y.

PENBERTHY'S IMPROVED

Automatic Injectors.

FOR STATIONARY, MARINE, PORTABLE AND LOCOMOTIVE BOILERS.

SIMPLE, RELIABLE, DURABLE.



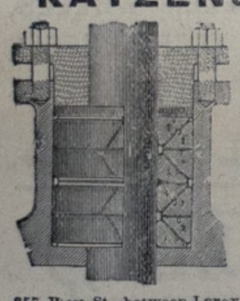
RANGE 25 TO 135. WILL LIFT 20 FEET.

A Written Guarantee with each Injector.

C. H. PRE [illegible] O.,

24 S WATER St., Telephone No. 2383, CLEVELAND, O.

KATZENSTEIN'S



SELF-ACTING METAL PACKING

FOR PISTON RODS, VALVE STEMS, Etc.

Adopted and in use by the principal Iron Works and Steamship Companies within the last eight years in this and Foreign countries. Also flexible tubular metallic packing for slip-joints on steam pipes and for hydraulic pressure. For full particulars and references address

I. KATZENSTEIN & CO

857 West St., between Leroy and Clarkson-st, N. Y.

CAPT. THOS. WILSON, who uses this packing on his Steamers, and THE MARINE RECORD are Agents for Cleveland and the Lakes.

McKINNON BROS.

Ashtabula Harbor, O.,

Machinists, Shipsmiths & Steamfitters;

ALSO, DEALERS IN

Engineers' Supplies, Lubricating and Burning Oils.

BUSINESS PROMPTLY ATTENDED TO.

CAPT. GEO. A. SIMPSON,

Compass Adjuster,

COMPASSES, BAROMETERS, PATENT LOGS AND MARINE GLASSES REPAIRED,

Schooners can have their Compasses Adjusted for Local Attraction at the time of repairs by stating how much they are out on East or West Courses, and which way it leads, North or South of above Courses

161 River St., Cleveland, O.

JOHN P. DEVNEY,

Marine Collector.

Collections Promptly Attended to.

ASHTABULA HARBOR, OHIO.

DETROIT & CLEVELAND

Steam Navigation Co.,

[Office, on wharf, 23 River Street,]

BETWEEN

CLEVELAND & DETROIT,

MACKINAC ISLAND, ST. IGNACE, ALPENA, SAND BEACH, PORT HURON, CHEBOYGAN, HARRISVILLE, OSCODA, ST. CLAIR, OAKLAND HOUSE AND MARINE CITY.

pecial Sunday Trips

BETWEEN CLEVELAND AND DETROIT DURING SUMMER MONTHS.

For full information, rates, tickets etc. apply to E. B. WHITCOMB, Gen Pas'gr Agt. Detroit, Mich. T. F. NEWMAN, Gen. Agt. Cleveland, O.

Travelers' Information Bureau,

224 Bank St., Cleveland, O.

ESTABLISHED 1847

Thomas Quayle's Sons,

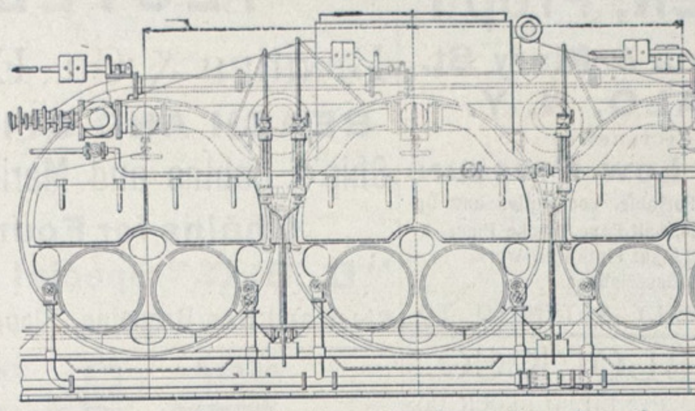
OFFICE & WORKS CENTRAL WAY

SHIP BUILDERS,

Thos. E. Quayle,
George L. Quayle,
Wm. H. Quayle.

Cleveland, O.

LAKE ERIE BOILER WORKS.



The best equipped plant in America for the manufacture of Modern Marine Boilers.

BUFFALO. NEW YORK

URSON, WALTON & Co.

SELL GOOD ROPE AT FAIR PRICES

Agents for the American Ship Windlass Co., Williamson Bros. Steam Steerer, Drein Metallic Life Boats.

159 AND 163 RIVER-St., CLEVELAND, O.

Established in 1857.

AMERICAN SHIP WINDLASS CO.

Builders of Steam, Messenger Chain and Hand Windlasses, Power, Crank and Steam Capstans, Wharf and Ferry Drops. Their Capstan Windlasses have a Power Capstan with a single head which has power and speed arrangement entirely independent of th Windlass, and which makes a direct connection with the Windlass without the intervention of any gearing to complicate it and increase the friction.

In all their styles of Steam Windlasses they make a direct connection between the engines and the windlass without counter shafts or additional gearing. This saves friction and liability to break down, and conduces to durability and ease in operating. They also have a counterbalance for the engines and an automatic lubricator for worm and worm gear, and the engines are placed together in the most accessible position. The above improvements and others too numerous to mention, but which are familiar to Masters, Owners and Builders, are covered by Patents owned exclusively by this Company. For plans and information

Address,

FRANK S. MANTON, Agent. P. O. box 53, Providence, R. I.

H. M. HANNA, PRESIDENT. JOHN F. PANKHURST, VICE PRESIDENT AND GENERAL MANAGER. LUTHER ALLEN, SECRETARY AND TREASURER

THE GLOBE IRON WORKS COMPANY

BUILDERS OF

IRON AND STEEL STEAMSHIPS

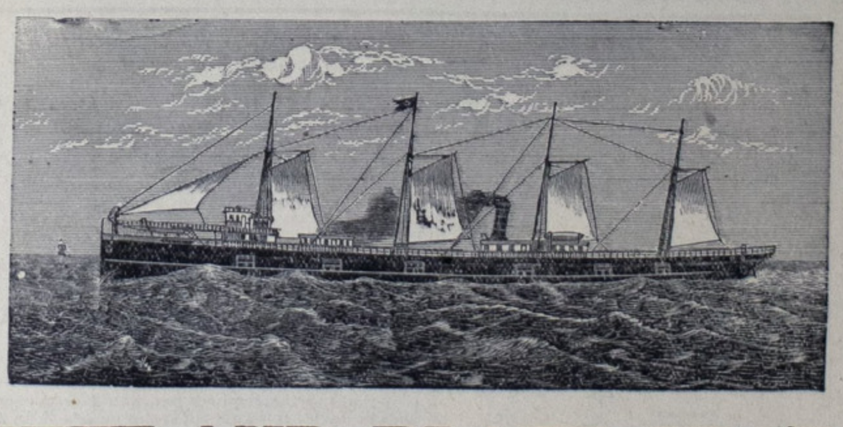
AND VESSELS OF ALL DIMENSIONS,

Triple Expansion, Compound, High Pressure and Low Pressure

MARINE AND STATIONARY ENGINES,

MARINE, STATIONARY & PORTABLE BOILERS.

Blast Furnace and Rolling Mill Machinery, Hoisting and Pumping Engines, Portable Hoisting Engines.



Steam Pumps, Steam and Hand Windlasses, Winches, and Marine Appliances of Every Description.

GENERAL SHEET AND PLATE IRON WORKERS,

Machinists, Boiler-Makers and Founders.

Builders of

IRON SHIPS "ONOKO," "WM. CHISHOLM," "J. H DEVEREUX," ETC.

STEEL STEAMERS "SPOKANE" "CAMBRIA," "CHAS. J. SHEFFIELD," "IRA H. OWEN," "CORSICA."

PASSENGER STEAMER "DARIUS COLE" AND STEAM YACHT "TWILIGHT."

IRON TUGS "INTERNATIONAL" AND "RECORD."

OFFICE & WORKS, Spruce and Elm Streets.

IRON SHIP YARD, Old River Bed, foot of St. Paul St

CLEVELAND, OHIO.

Established in 1859.

HENRY LEOPOLD.

Manufacturer and Dealer in all kinds of fine and plain *FURNITURE & UPHOLSTERY,*

Mattrasses and Vessel Furniture

A SPECIALTY.

Warerooms 798 and 800 Lorain-st., near Fulton. Factory 10 Willet-st.

CLEVELAND, OHIO.

Cleveland Dry Dock Co,

Shipbuilding, Drydocking, Repairing and Spar Making.

CLEVELAND, OHIO.

CARLETON & COLE,

Port Huron Machinery & Supply Depot,

PORT HURON, MICH.

Manufacturers' Agents and Dealers in Boilers, Engines, Steam and Wrecking pumps, Engineers Supplies, and Fit-outs for Steamers and Vessels.

405 and 407 Water st., East.

Look Out For Breakers.

Dont leave port without a case of

DODGE'S CANVAS OIL BAG

aboard, filled and ready for use. You may need the before the season is over.

Mortimer H. Dodge, 122 Water St., Cleveland.